

COUNTY BOROUGH OF ST. HELENS.



Annual Report

ON THE

**Health and Sanitary Circumstances
of the Borough**

FOR THE YEAR 1915.

—BY—

JOSEPH CATES,

M.D., Lond., D.P.H., Camb.

Medical Officer of Health,

School Medical Officer.

St. Helens:

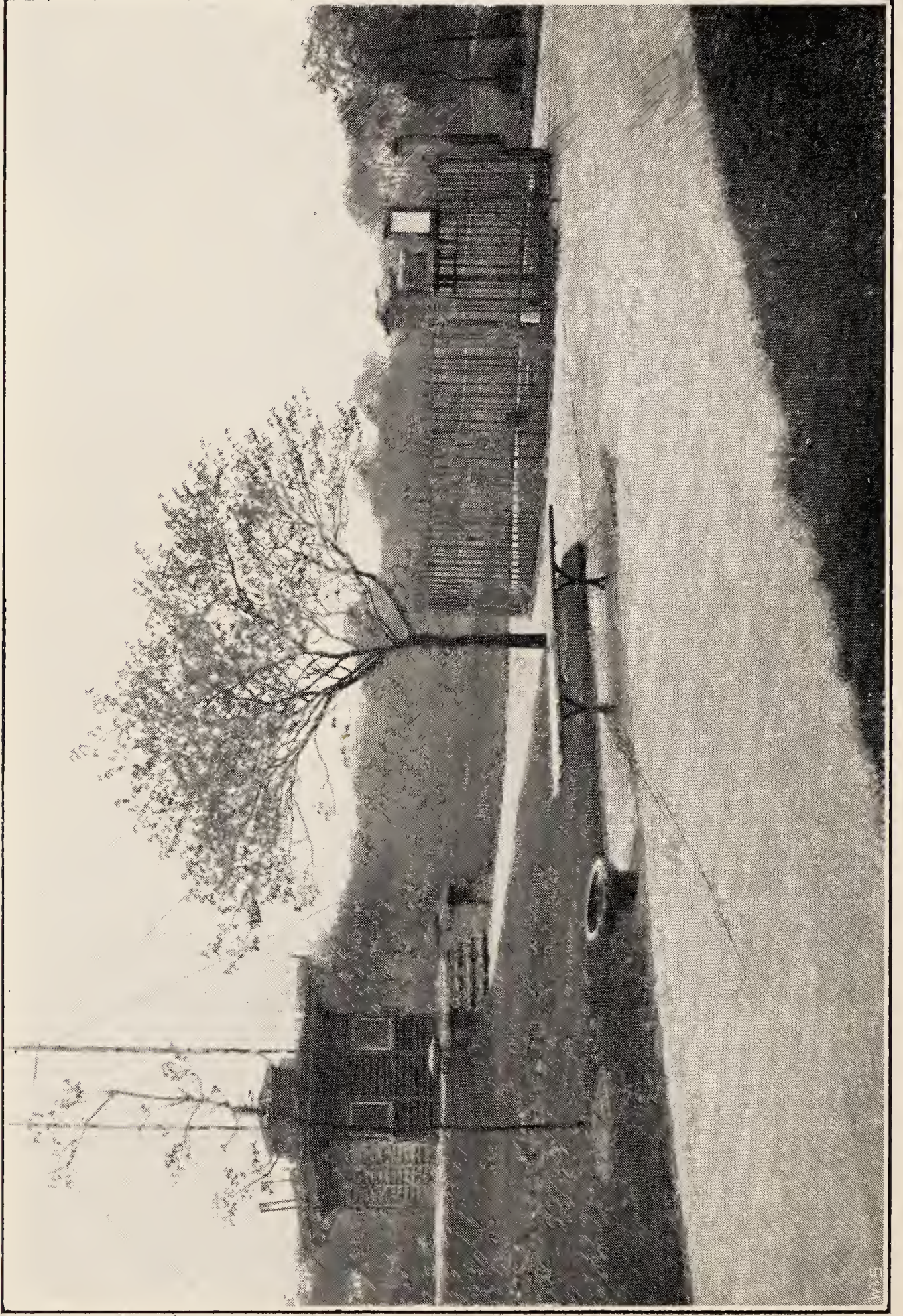
WESTWORTH & SONS, PRINTERS AND STATIONERS, LOWE STREET,

1916.



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The Corporation Meteorological Station.

COUNTY BOROUGH OF ST. HELENS.



43RD

Annual Report

OF THE

Medical Officer of Health.

—BY—

JOSEPH CATES, M.D., State Medicine. B.S., (Lond).
D.P.H. (Camb).

Medical Officer of Health, Chief Tuberculosis Officer, School Medical Officer, and Medical Superintendent of the Corporation Hospitals, County Borough of St. Helens; Fellow of the Royal Society of Medicine and Member of the Epidemiological Section, Fellow of the Society of Medical Officers of Health, Member of the Royal Sanitary Institute, Formerly Demonstrator of Public Health at King's College, University of London, Assistant Medical Officer of Health to the County Borough of Coventry, Medical Officer of Health and School Medical Officer to Borough and Port of Lancaster.

1915.

St. Helens:

WESTWORTH & SONS, PRINTERS AND STATIONERS, LOWE STREET.

1916.

HEALTH COMMITTEE.

THE RIGHT WORSHIPFUL THE MAYOR
(ALDERMAN H. B. BATES, L.S.A.), *Chairman*.

ALDERMAN J. FORSTER, J.P., *Deputy-Chairman*.

ALDERMAN H. H. PEET.

COUNCILLOR T. ABBOTT.

COUNCILLOR J. A. BARON.

COUNCILLOR R. ELLISON.

COUNCILLOR W. FORSHAW.

COUNCILLOR J. H. FOX.

COUNCILLOR T. HAMBLETT, J.P.

COUNCILLOR R. JACKSON, M.B.

COUNCILLOR J. PHYTHIAN.

COUNCILLOR E. W. SWIFT.

SUB-COMMITTEES.

HOSPITALS.

THE RIGHT WORSHIPFUL THE MAYOR.

ALDERMAN J. FORSTER, J.P.

COUNCILLOR R. JACKSON, M.B.

COUNCILLOR J. PHYTHIAN.

COUNCILLOR T. ABBOTT.

COUNCILLOR W. FORSHAW.

COUNCILLOR T. HAMBLETT, J.P.

SANITARY.

THE RIGHT WORSHIPFUL THE MAYOR.

ALDERMAN J. FORSTER, J.P.

COUNCILLOR J. A. BARON.

COUNCILLOR R. ELLISON.

COUNCILLOR J. H. FOX.

COUNCILLOR T. HAMBLETT, J.P.

INFANT LIFE.

THE RIGHT WORSHIPFUL THE MAYOR.

ALDERMAN J. FORSTER, J.P.

COUNCILLOR T. HAMBLETT, J.P.

COUNCILLOR R. JACKSON, M.B.

SEWAGE.

THE RIGHT WORSHIPFUL THE MAYOR.

ALDERMAN J. FORSTER, J.P.

COUNCILLOR J. A. BARON.

COUNCILLOR W. FORSHAW.

TUBERCULOSIS (Consultative).

THE RIGHT WORSHIPFUL THE MAYOR.	COUNCILLOR J. A. BARON.
ALDERMAN H. H. PEET.	COUNCILLOR J. H. FOX.
COUNCILLOR T. ABBOTT.	COUNCILLOR J. PHYTHIAN.

TUBERCULOSIS (Animals).

THE RIGHT WORSHIPFUL THE MAYOR.	COUNCILLOR R. JACKSON, M.B.
ALDERMAN H. H. PEET.	COUNCILLOR J. PHYTHIAN.
COUNCILLOR J. A. BARON.	

HOUSING.

THE RIGHT WORSHIPFUL THE MAYOR.	COUNCILLOR W. A. BROOKE.
ALDERMAN J. FORSTER, J.P.	COUNCILLOR R. ELLISON.
COUNCILLOR T. ABBOTT.	COUNCILLOR W. FORSHAW.
COUNCILLOR T. HAMBLETT, J.P.	

EDUCATION COMMITTEE.

COUNCILLOR J. HEATON*Chairman.*

ALDERMAN C. J. BISHOP, J.P.*Deputy-Chairman.*

and the whole of the Members of the Council,

with the following co-opted Members :—

MRS. M. J. HAMMILL.

SIR D. GAMBLE, Bart.

MRS R. PILKINGTON.

MR. R. A. PILKINGTON,

MR. J. E. C. ELSE.

MR. L. E. PILKINGTON, (Lancashire County

MR. K. FORBES, (Liverpool University Representative) Council Representative).

MR. J. FRODSHAM.

MR. G. STRINGFELLOW.

MR. J. ROBINSON.

CENTRAL CHILDREN'S CARE COMMITTEE.

COUNCILLOR R. JACKSON, M.B.*Chairman.*

COUNCILLOR T. HAMBLETT, J.P.*Deputy-Chairman.*

THE RIGHT WORSHIPFUL THE MAYOR.

COUNCILLOR W. COLLIER.

ALDERMAN C. J. BISHOP, J.P.

COUNCILLOR W. FORSHAW.

ALDERMAN A. J. FOOTE, J.P.

COUNCILLOR P. GLYNN.

ALDERMAN J. FOSTER, J.P.

COUNCILLOR P. PHYTHIAN, J.P.

ALDERMAN H. MARTIN, J.P.

COUNCILLOR G. P. VARLEY.

ALDERMAN H. H. PEET.

COUNCILLOR W. WOODCOCK.

COUNCILLOR T. ABBOTT.

AND

MRS M. J. HAMMILL

MRS. R. PILKINGTON

SIR DAVID GAMBLE.

STAFF

OF THE MEDICAL OFFICER'S DEPARTMENT.

JOSEPH CATES, M.D., B.S. (Lond.), D.P.H. (Camb.)

Medical Officer of Health, Chief Tuberculosis Officer, Medical Officer of the Education Committee, and Medical Superintendent of the Corporation Hospitals.

S. J. C. HOLDEN, M.B., D.P.H. ¶

Deputy Medical Officer of Health and Tuberculosis Officer.

FRANK HAUXWELL, M.B., D.P.H. ¶

Assistant Medical Officer of Health.

C. W. GEE, L.R.C.P. & S. (Ed.), D.P.H.

G. BARKER CHARNOCK, L.R.C.S., (Ed.), L.R.C.P., (Ed.), L.R.F.P.S.G., D.P.H. (Liverpool).

} Temporary Assistant Medical Officers of Health.

R. BARON, L.D.S. ¶School Dental Surgeon.

B. R. TOWNEND, L.D.S.Temporary School Dental Surgeon.

W. J. MILLIGAN, (1) ¶Chief Inspector of Nuisances.

J. ALMOND (1), (4), (6)District Inspector.

H. BROWN, (1), (4), (5), (6), (9) ¶District Inspector.

F. COLLIER, (1), (4), (5), (6), (7) ¶Housing, Shops, and Workshops Inspector.

H. LOWE, (4), (6) ¶District Inspector.

J. SKEATH, (4) ¶Drainage and Shops Inspector.

*H. CHEETHAM, (1), (7), (9)

*J. GALLAGHER (1), (4), (7), (10), (11), (12), (13)

R. J. JACKSON (1), (5)

G. E. TAYLOR (1)

C. WHITELEY, (1)

} Temporary District Inspectors.

T. BLASHILL, (1), (5)Superintendent of the Public Abattoir.

R. SHEPHERDConversions Inspector.

H. MYERS

H. RIDGWAY

J. PETTY

} Disinfectors.

Assistant Disinfectors.

H. SIMCOX ¶	Motor Ambulance Driver.
P. McDERMOTT	Temporary Motor Ambulance Driver

W. BARR	} Hospital Porters.
F. ABBOTT	

MARGARET BURGESS Matron of the Corporation Hospitals

*RUTH APPLETON, (2), (3)	} Health Visitors, School Nurses, Tuberculosis Nurses, and Inspectors of Midwives.
MARTHA BLANCHARD, (3), (8), (2)	
ETHEL DENMAN, (1), (3), (8) (2)	
*MARY DUDLEY, (1), (2), (3), (8)	
FLORENCE FLETCHER, (3), (8)	
JEANNIE GRIME, (2), (3), (8)	
ARIANWEN HUGHES, (3), (8)	
GRACE MACCLELLAND, (2), (3), (8)	
ADA ROGERSON, (2), (3)	
*JOSEPHINE SEPHTON, (3), (8)	
ANNIE STABLEFORD, (2), (3), (8)	
FLORENCE V. THOMAS (3), (8)	
HANNAH WEIR (1), (3), (8)	
*NORAH WICKENS (2), (3), (8)	

JESSIE WEATHERILT	Assistants at the Maternity
DOROTHY WORSLEY	Centre.

THOMAS G. ELLIS	Chief Clerk.
HENRY CASSELL	Clerk Dispenser.
ARTHUR HARRISON ¶	Third Class Clerk.
FRED THOMAS ¶	Junior Clerk.
THOMAS HOWARD	„
JOSEPH HELSBY	„
ALFRED TARBUCK	} Office Boys.
THOMAS ROBINSON	

The following are part time officers—

J. FOX, M.B., C.M. (Ed.), M.R.C.S. (Eng.)	Surgeon for the Throat and Nose Department, School Clinic.
J. DONNELLAN, M.B., Ch.B. (Liverp.)	Anæsthetist at the School Clinic.
A. GRAHAM, M.B., C.M., (Glasg).	Ophthalmic Surgeon at the School Clinic.
F. J. KNOWLES, M.R.C.S., L.R.C.P. (Lond.)	Physician to the X-ray Department at the School Clinic and Tuber- culosis Dispensary.
H. E. DAVIES, M.A., B.Sc., F.I.C.	Public Analyst.
W. G. DIXON, M.R.C.V.S.	Veterinary Inspector.

- (*) *Resigned during the year to take up other appointments.*
- (¶) *On active service.*
- (1) *Sanitary Inspector's Certificate of the Royal Sanitary Institute.*
- (2) *Health Visitor's Certificate of the Royal Sanitary Institute.*
- (3) *Certificate of the Central Midwives Board.*
- (4) *Sanitary Inspector's Certificate of Liverpool University.*
- (5) *Certificate for Meat Inspection of the Royal Sanitary Institute.*
- (6) *Certificate for Meat Inspection of Liverpool University.*
- (7) *Certificate for Building Construction (advanced) Board of Education.*
- (8) *A trained Nurse.*
- (9) *Certificate for Building Construction, first stage.*
- (10) *Certificate Honours for Building Construction (Board of Education).*
- (11) *Honours in Technology, City and Guilds, London.*
- (12) *Advanced Hygiene Certificate Board of Education.*
- (13) *Certificate of the Worshipful Company of Plumbers.*

PREFACE.

TO THE CHAIRMAN AND MEMBERS OF THE HEALTH COMMITTEE.

GENTLEMEN,

I have the honour to present the following report, which deals with the health and sanitary circumstances of the borough for the year ending 31st December, 1915, and reviews the work carried out under the direction of your medical officer.

The scope of the report has been considerably curtailed to meet the abnormal conditions now existing and the publication has been delayed by the enlistment of staff, difficulties in printing and my own illness.

POPULATION.

The estimation of the civil population of the borough has been based in figures obtained as a result of the National Registration Act, but in view of the fact that those absent on military duties, are in the main, healthy adults of an age almost immune to the more common zymotic diseases, it would be reasonable to calculate most of the statistics on the pre-war population of 102,000 persons.

VITALITY.

The health of the district is unsatisfactory and the loss of infant life continues to be excessive, doubtless several factors contribute, but the main cause lies in the insanitation still to be found in the borough. The surroundings under which a proportion of the inhabitants of the district are forced to live are a danger to health. Certain areas of the town are extremely insanitary, and as such should be dealt with. About five thousand pail closets and privies remaining unconverted, yearly exact a toll of infant lives, and the standard of municipal sanitation evidenced in the removal of refuse and the sweeping of streets is by no means satisfactory.

SANITATION.

The outbreak of hostilities lead to the cessation of various schemes by local authorities to deal with defective housing and other urgent problems relating to public health, and it is particularly regretable that the conversion of pail closets and privies to the water carriage system was suspended for the duration of the war. It is more than likely that the money it was hoped to save has already been lost in destruction and damage to child life occasioned by the presence of the death dealing open refuse pit.

Sanitary defects are accumulating at an alarming rate—in some parts of the borough property is now beyond repair and unless a comprehensive and complete campaign is soon initiated the effect on health will be apparent to the most casual observer.

INFECTIOUS DISEASE.

The year 1915 saw the beginning of a moderately mild epidemic of scarlet fever and an outbreak of diphtheria extremely virulent in type taxing to the utmost the already insufficient accommodation for patients and staff at Peasley Cross Isolation Hospital. The mortality from diphtheria was high, chiefly on account of the last stage in which the cases were admitted for institutional treatment, parents generally did not seek medical advice until the disease was beyond control.

Measles was prevalent in the autumn of 1914 and continued until the spring of the following year, the steps taken to meet the situation are set out in page 29 .

No instance of small pox occurred and the amount of cerebro spinal fever was at no time a cause of anxiety. Owing to the war, venereal disease is becoming common and the local sanitary authority has now to formulate a scheme to provide for free diagnosis and treatment for those affected.

MATERNITY AND CHILD WELFARE.

An increasing amount of time has been spent on maternity and child welfare work, details of which are given on page 35 .

THE NEEDS OF THE DISTRICT.

There are six directions in which there is urgent need of progressive and resolute action if the health of the borough is to be improved.

The provision of houses for the working class and the closing and clearance of certain insanitary areas.

The provision of adequate hospital accommodation for maternity and for infectious diseases.

The conversion of the pail closets and privies now remaining.

The abolition of the bricked ashplaces and the provision of closed ashbins.

The paving of yards.

The regular and frequent removal of horse manure.

SPECIAL REPORTS.

Reports on the Supervision of Tuberculosis Contacts by Dr. Charnock, and on Measles by the Medical Officer of Health, are issued as an appendix to this report.

STAFF.

It gives me pleasure to refer to the willing and satisfactory manner in which the members of my staff have carried out their duties.

I am, Gentlemen,

Your obedient servant,

JOSEPH CATES.

JULY, 1916.

SUMMARY OF VITAL STATISTICS FOR 1915.

TOTAL POPULATION—Estimated to the middle of the year—

						St. Helens.	Rates based on estimated civil population.	England and Wales.
Males ...53,450 } Females 48,750 }						Total	102,200	—
Increase during the year ...						...	1,425	—
ESTIMATED CIVIL POPULATION ...						...	92,240	—
MARRIAGES ...						...	745	—
Annual rate of persons married per 1000 of the total population ...						...	14.5	16.1
BIRTHS ...						Males ...1,501 } Females 1,465 }	Total ...	2,966
Annual rate of births per 1000 of the total population ...						...	29.02	32.1
DEATHS ...						Males ... 960 } Females 820 }	Total ...	1,780
Annual rate of mortality per 1000 of the total population						Males ...17.96 } Females 16.82 }	Total ...	17.41
Annual rate of mortality per 1000 of the total population, corrected for age and sex dis- tribution of the population ...						...	18.77	20.8
Total deaths from zymotic diseases ...						...	294	—
Annual rate of mortality from zymotic diseases per 1000 of the total population...						...	2.87	3.1
Infant mortality rate per 1,000 births ...						...	129	—
Death-rate from diarrhoea of children under two years of age, per 1,000 births ...						...	22.9	—

ANNUAL REPORT

**ON THE HEALTH AND SANITARY CIRCUMSTANCES OF THE
BOROUGH FOR THE YEAR 1915.**

NATURAL AND SOCIAL CONDITIONS.

St. Helens is situated in the south-west of Lancashire, about ten miles north-east of Liverpool and twenty miles west of Manchester. The coast is nearest at Seaforth, a town at the mouth of the Mersey, twelve miles west of the borough.

The line of the borough boundary is roughly the circumference of a circle, the centre being at Peasley Cross, and the radius a distance of about two miles.

The area is approximately 7,285 acres: the rateable value on the 31st March, 1915, was £384,979. A penny rate under Section 211 of the Public Health Act, 1875, is estimated to yield £1,480.

On the north-east are the urban districts of Haydock and Ashton-in-Makerfield, and the rural district of Warrington. With these exceptions, the borough is bounded by the Whiston rural area.

From the south-west corner of the borough, about 270 feet above sea-level, the ground slopes gradually towards a belt of low-lying land extending from east to west across the district, and traversed by small streams which unite in the eastern part of the area to form the Sankey brook. One of these watercourses, known as Windle brook, passes through the centre of the thickly populated, north-western division of the borough. It appears that the older portions of the town were built along the banks of this stream. The land in the northern part of the borough also inclines towards the Windle brook.

Between St. Helens and the coast, the land generally is low-lying and is used for agricultural purposes.

The borough is divided into nine wards. Table 1, on page 47, shows the position, acreage, estimated population for 1915, and density of each ward calculated on the approximate area built upon.

RAILWAYS AND ROADS.

GEOLOGY OF THE DISTRICT.

HISTORY OF THE TOWN.

INDUSTRIES AND OCCUPATIONS.

A reference to each of these subjects will be found in the annual report for the year 1914.

METEOROLOGY.

At the Corporation Observatory in Victoria Park, readings are taken once a day, at 9 a.m.

Table 2 on page 48 shows the annual rainfall in St. Helens since 1889.

The temperature of the soil four feet below the surface during 1915 will be seen on table 3, together with a curve representing the weekly number of deaths from diarrhoea.

The weekly record of readings taken at the Observatory during the year is given in table 4 on page 49.

POPULATION.

The estimated total population of the borough at the middle of 1915 was 102,200, being 53,450 males and 48,750 females. According to the figures revealed by the National Registration Act the civil population was estimated to be 92,240. Table 6 on page 50 gives the number of inhabitants of each ward as shown by the census returns of 1911.

The age and sex distribution of the population at the time of the last census is set out in table 7 on page 51.

Table 8 on page 52 gives the number of persons resident in the various institutions of the borough at the census period 1911, and also the figures for 1915.

An inquiry was carried out during Dec., 1915, respecting the number of unoccupied buildings in the borough, the figures are shown in table 9.

NUMBER OF PERSONS PER INHABITED BUILDING.

CLASSIFICATION OF BUILDING.

Tables relating to housing conditions taken from the census returns of 1911 were set out in the annual report for 1914.

CLASSIFICATION OF BUILDINGS.

The number of inhabited houses in St. Helens at the middle of 1914 was 18,361, giving an estimated population of 100,900. The corresponding figures for June, 1913, were 18,248 and 100,364 respectively.

BOARD OF TRADE LABOUR EXCHANGE.

The figures on table 17 show the number of applications for employment received, the number of vacancies notified by employers and the number of vacancies filled, for the twelve months ending the 31st Dec., 1915. The figures, which do not include vacancies of a casual nature, are indicative of the valuable work carried on by the Exchange.

POOR LAW AND OTHER FORMS OF RELIEF.

The amount of out-door relief in money and kind supplied by the Guardians during the year ending the 30th September, 1915, to persons resident within the borough, and chargeable to the Union was £6,372 - 3 - 0.

It has been found impossible to obtain figures showing the amount of pauperism in the borough for a series of years, as the statistics are not prepared by the Poor Law Authorities for separate sanitary districts, but for the whole Union, which comprises nineteen townships.

A local branch of the Charity Organization Society has afforded assistance to 32 applicants during 1915, a sum of £9 - 11 - 2 being expended in suitable relief.

A Police Aided scheme to provide clothing for destitute children is in existence in the borough. As a result of useful work carried out during the past year, 635 children received foot-gear and clothing, 1,947 articles being distributed.

Free meals to the number of 36,355 were provided by the local Education Authority for children selected from a school population of 20,324.

MEDICAL AND SURGICAL ASSISTANCE.

There are two general hospitals in St. Helens, containing 200 beds for the relief of those residing within the borough and the surrounding district. During the year, 2,135 in-patients and 532 out-patients received treatment, and 401 wounded soldiers were taken into hospital. Neither institution will accept maternity cases.

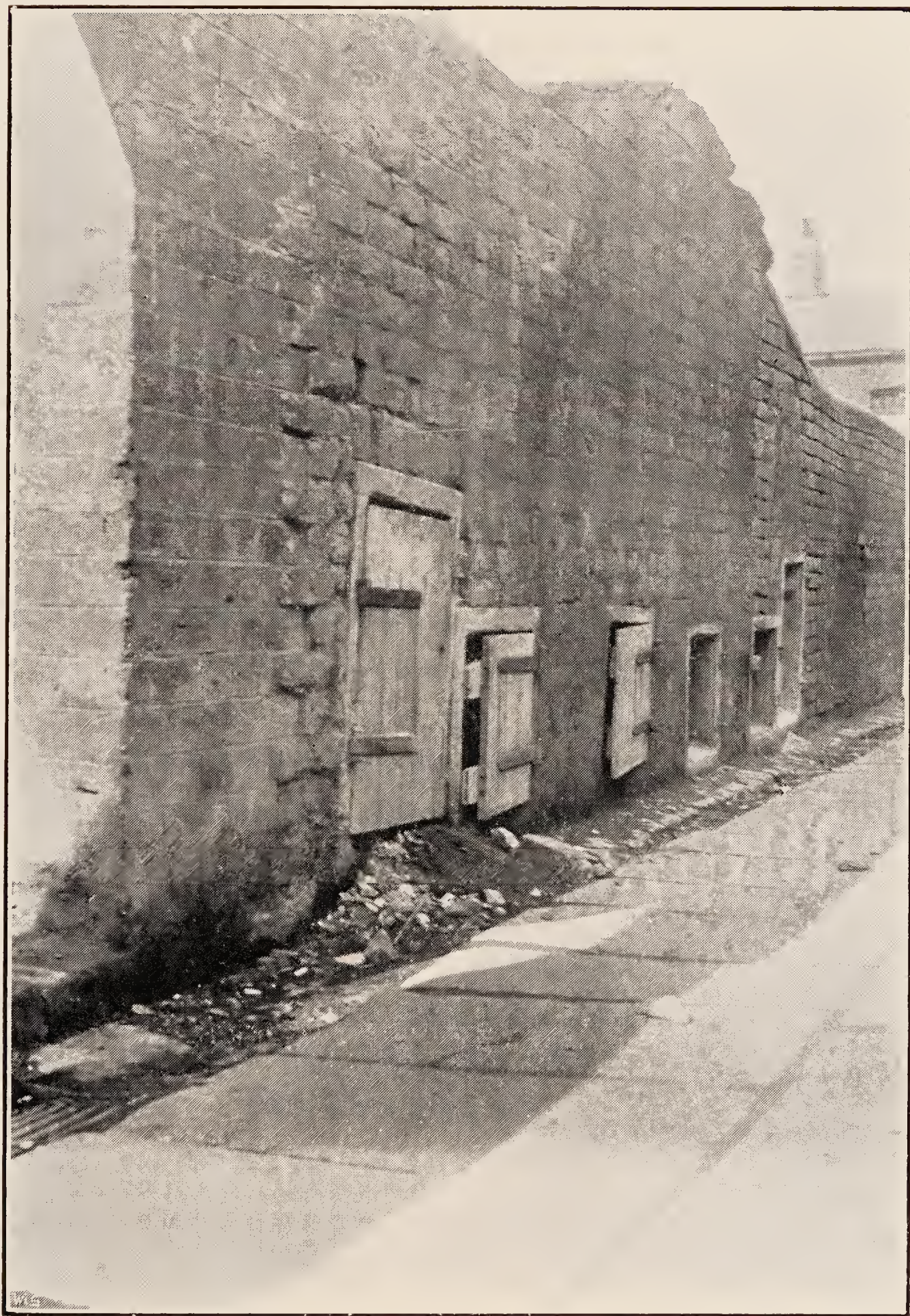
Accommodation is provided by the Corporation at the borough isolation hospitals for persons suffering from scarlet fever, diphtheria, enteric fever, smallpox, tuberculosis and certain other infectious diseases.

A voluntary Association for the aid of crippled children has rendered valuable help during the year to 83 patients, by the provision of apparatus, spinal carriages, and hospital treatment,

A Fresh-Air Fund sent 63 children to convalescent homes for a period of at least three weeks, and also provided in other ways for a large number of cases.

The Education Authority contributed £350 - 10 - 11 towards the maintenance of children at surgical homes and other institutions.

A Nursing Association, by means of voluntary contributions, maintains a superintendent and seven nurses to attend suitable cases in their own homes. 1,203 new cases and 130 old cases were nursed during the year, the total number of visits amounting to 32,701.



One result of the Tub and Pail System.

SANITARY CIRCUMSTANCES.

WATER SUPPLY.

The Council supply water to the district under the provisions of the St. Helens Improvement Act, 1869, and the St. Helens Water Act, 1882.

Water is obtained from deep wells in the new red sandstone. There are six pumping stations. From the various wells water is pumped to a central reservoir, and before being distributed is softened by a liming process, the average hardness before and after softening being, according to Clark's scale, 20.9° and 10.16° respectively. During the year ending the 31st December, 1915, 1,457,266,449 gallons were used, 1,018,337,449 for domestic supply, and 438,929,000 for trade purposes. The vast majority of houses in the borough are supplied from the Corporation mains. The supply is constant, and in periods of prolonged drought has proved sufficient. A few farms and cottages in the outlying districts are still supplied from shallow wells. The average daily consumption per head for domestic purposes is about $26\frac{1}{2}$ gallons, and for other than domestic purposes, 11 gallons.

Chemical and bacteriological analyses which are carried out at regular intervals show that the water, although very hard, is of a high degree of purity. There is no evidence of metallic or other contamination.

RIVERS AND STREAMS.

The Sankey brook, formed by the union of Windle, Sutton and Rainford brooks together with several small watercourses, passes through the north-eastern quarter of the borough, closely following the course of the St. Helens Canal. It receives the effluent from the Corporation sewage works and also an amount of untreated sewage. Trade effluent from various works passes into the brook, which is considerably polluted.

DRAINAGE AND SEWAGE.

Drains are laid in practically the whole of the populous portions of the borough. There is separation of sewage and storm water in the Denton's Green and Newtown areas, surface and storm water being turned into Windle brook. In the outlying districts a number of houses have been built in a situation remote from a sewer. About three-quarters of the sewage of the borough is treated at the Parr sewage works by liming and sedimentation; the effluent, varying greatly in composition, is discharged into the Sankey brook. The remainder of the sewage is turned, untreated, into the same watercourse. The bulk of the material collected from the conservancy system is treated at a depot at Parr. A portion of the substance

obtained from privy middens is sold to farmers, the remainder is mixed with the contents of the tubs and pails, and converted into artificial manure.

CLOSET ACCOMMODATION.

Tables 18 and 19 on page 57 show the estimated number of houses with the various types of sanitary conveniences existent in the borough each year since 1907, and the number of conversions completed since 1904. Owing to the war there has been a considerable diminution in the number of conversions carried out.

PUBLIC CONVENIENCES.

There are fifteen of these situated in various parts of the town. Eleven are modern structures, but in only one instance is there water closet accommodation. Additional provision is urgently needed, both as regards closets and also urinals for women.

PUBLIC BATHS.

These are situated in Boundary Road. The total number of baths used during the year was 147,596, being 88,816 plunge baths, 7,636 slipper baths, 45 vapour baths, and 51,099 baths were provided free for soldiers.

REMOVAL OF HOUSE REFUSE.

Removal of house refuse, and the emptying of tub and pail closets and privy middens are undertaken by the Corporation. The removal of the contents of privy middens is carried out about three times a year, and at less infrequent intervals on request. Pail closets and ashplaces are emptied about once a week. Fish refuse and other material liable readily to decompose are taken away about twice a week. Bricked ashpits and ashplaces with wooden doors are common in the borough. The conversion of these to moveable wall bins of the tippler type is being proceeded with. 370 were converted during the year. In new houses moveable bins are generally provided.

About three-quarters of the house and trade dry refuse is treated at a destructor in Boundary Road. During 1915, 13,047 tons were destroyed. The actual cost of labour per ton for destruction only was 1s. 4d., and the approximate allowance for the sale of steam amounted to £537.

The remainder of the house refuse is tipped at Parr.

The general condition of the streets, passages and footpaths is unsatisfactory and in some areas of the town extremely insanitary.

SCAVENGING.

Street sweeping is carried out by the Corporation. The state of the paving, in many of the streets, renders the work difficult. The main streets are cleansed about twice a week, the side streets and passages about once a week. The cleansing and sweeping of footpaths is the duty of occupiers, and is generally neglected.

SANITARY INSPECTIONS OF THE DISTRICT.

The total number of visits made by the staff of the medical officer's department during the year was 33,999.

Table 20 on page 58 contains a list of notices served during 1915, and a record of previous years.

CHOKED DRAINS.

When it is discovered that a drain is choked an officer of the department attempts to remove the obstruction before a notice is served on the owner or occupier. During the year, 653 drains were plunged, and in 421 instances the obstruction was removed.

CLEANSING OF PREMISES.

A whitewash brush and a supply of lime were provided for the use of 425 persons unable to pay for the necessary cleaning of their houses. Eleven tons of lime being distributed and four tons of disinfectant.

PREMISES AND OCCUPATIONS CONTROLLED BY BYE-LAWS OR REGULATIONS.

COMMON LODGING HOUSES.

There were in the borough at the beginning of the year, 8 common lodging houses registered for the reception of 456 lodgers.

During 189 inspections fourteen infringements of byelaws were discovered.

HOUSES LET IN LODGINGS.

There were five houses on the register at the commencement of the year, but there are a number of houses illegally used as houses let-in lodgings. The houses are on the whole only moderately well kept. Seventy-six inspections were made, and five notices were served.

BAKE HOUSES.

There are 113 of these on the register ; one is underground. Mechanical power is used in 17 instances. Nineteen defects were discovered during the year, and after notice seventeen were remedied.

There is room for considerable improvement both in the sanitation of the premises and in the standard of cleanliness observed.

CANAL BOATS.

Twenty boats were inspected. No instance of infectious disease was discovered nor were any boats detained for cleansing or disinfection. Five infringements of the Acts were detected, one being failure to produce the necessary certificate ; one boat found to be leaking. Further details of the work are given in Table 83.

OFFENSIVE TRADES.

At least nine offensive trades are carried on within the borough. There are five tripe dealers, a manure manufacturer, a fat melter, a bone boiler, and a gut scraper. In many cases the premises are structurally unsuitable.

CELLAR DWELLINGS.

An underground room having been separately occupied as a dwelling during the year, the house was closed under the Housing and Town Planning Act.

SMOKE NUISANCE.

The atmosphere of the district is considerably polluted by the imperfect combustion of coal.

Table 21 shows the percentage of offences to the number of observations made each year since 1903.

SCHOOLS.

Reference to the sanitary conditions and water supply of the schools will be found on page 107, and an account of the administrative control over infectious disease in schools is given on page 116.

FOOD AND FOOD PREMISES.

MILK SUPPLY.

COWKEEPERS AND COWSHEDS.

Twenty-one persons are registered as cowkeepers. There are about 166 cows kept for dairy purposes within the district. The animals are inspected four times a year by a veterinary surgeon appointed by the Committee. Twenty-two defects in the cowsheds were reported during 1915. A considerably higher standard of cleanliness might be observed both in the methods of milking and in the state of the sheds, and insufficient use is made of the means of ventilation provided.

MILK SHOPS.

During 1915, 12 milk shop keepers were added to the register, and 6 removed, 127 remaining on the register at the end of the year.

Although the Committee now insist that milk sold from shops shall be stored in special receptacles, yet there can be little doubt that the risk of contamination in certain cases is considerable. General dealers should not be permitted to sell milk.

MILK.

No systematic bacteriological examination has been made of milk sold within the borough. Two dairy cows were found to be suffering from tuberculosis and were slaughtered by the owner.

MEAT.

A municipal abattoir is in a central position and has in connection with it cold air stores. Meat inspection at the abattoir is carried out by the superintendent who holds a certificate in meat inspection. A similar certificate is held by six of the assistant sanitary inspectors. In cases of difficulty reference is made to the medical officer of health. Three thousand seven hundred and eighty-nine beasts, 287 calves, 2,420 sheep and 3,855 pigs were killed in the public slaughter house during the year. No utilisation is made of the offal or other waste products. A proportion of the meat sold in the district is prepared outside the borough, in places where efficient inspection is impossible, and it appears very desirable that all meat brought into the district for sale should be first passed through a clearing-house: until this is accomplished no system of meat inspection

can be considered satisfactory. Five private slaughterhouses still remain in the borough, and are without exception unsuitable and generally insanitary. Four are licensed for the slaughter of cattle and pigs, and one for pigs only. The private slaughter-houses are regularly visited by the inspectors, frequent visits being paid when slaughtering is expected to occur. The licensee of each private slaughter-house keeps a register of animals slaughtered and makes a weekly return to the medical officer of health. An inspection of meat exposed for sale is regularly carried out. The numbers of animals killed in the private slaughter houses during the year were 104 beasts, 21 calves 685 sheep, 2,982 pigs.

Table 22 shows the number of animals found on slaughter to be diseased, and the approximate weights of meats condemned at the abattoir and at the private slaughter-houses.

FOOD POISONING.

No definite epidemic of food poisoning occurred in the borough during 1915, but it is almost certain that the majority of the 78 deaths which occurred from diarrhoea and enteritis can be directly attributed to infected food.

SALE OF FOOD AND DRUGS ACTS.

A considerable amount of time during the year was devoted to work arising out of these Acts, and, as in the previous year, to avoid arousing the suspicions of the seller, a number of the samples were obtained informally. Where the informal sample proved to be adulterated, a further sample was taken with the necessary formalities.

MILK.

Twenty-nine informal samples were purchased, and of these all were genuine : 130 formal samples were taken, and 9 were adulterated or otherwise tampered with.

The following details relate to the samples reported to be not genuine :

1. A formal sample taken from a milk seller (a) was found to be 4 per cent. deficient in fat.

2. A formal sample was taken from the farmer in course of delivery to the milk seller (a). The milk was 2 per cent. deficient in fat and the farmer was warned.

3. A formal sample taken at the railway station was found to contain 3 per cent. of added water. Other samples taken from the cows at the

time of milking were shown to be genuine. Proceedings were taken against the farmer who was convicted and fined £2.

4. A formal sample taken from the cart of a milk seller (b), was found to be 10 per cent deficient in fat. Further samples in the course of delivery to the milk seller (b) from the same source were shown to be genuine. Proceedings were taken against the milk seller, but the case was dismissed.

5. A formal sample taken from the shop of a retailer (c) was shown to be 5 per cent. deficient in fat. A further sample taken in the course of delivery to the milk seller was found to be genuine. The seller was convicted and fined £2.

6. A formal sample taken from a milk seller (d) was found to contain 2 per cent. of added water.

7. A formal sample taken in the course of delivery to milk seller (d) was shown to contain 8 per cent. of added water.

8. A further sample taken in the course of delivery to (d) was 28 per cent. deficient in fat. Samples taken from the cows at the time of milking were reported to be genuine milk. Proceedings were therefore taken against the farmer who was convicted and fined £3.

9. A formal sample taken at the railway station was reported to be 4 per cent. deficient in fat. Other samples taken from the cows at the time of milking were shown to be genuine. Proceedings were taken against the farmer but the case was dismissed on payment of costs.

Table 23 on page 60 shows the results of the analyses of milk samples.

PUBLIC HEALTH (MILK AND CREAM) REGULATIONS, 1912.

These regulations prohibit the addition of any preservative substance to milk intended for human consumption. Only cream containing 35 per cent. or over of fat may be preserved, and then only by certain substances, the nature and amount of which must be stated on a label. No preservative was discovered in the samples of milk examined. No samples of preserved cream were analysed. No instances of an infringement of the requirements as to labelling were detected. Practically no cream other than preserved cream is obtainable in the district.

OTHER FOOD.

The number and nature of samples other than those of milk taken during the year are given on table 24 on page 60. Convictions were obtained in each of the four cases in which excess of flour was added to chopped suet in 1914.

HOUSING.

Owing to the war practically no notices have been served under the provisions of the Housing and Town Planning Act, 1909, and under section 141 of St. Helens Improvement Act, 1869.

A large number of closing orders and orders for demolition made by the Council are still in operation, but the houses are occupied and no steps have been taken to remedy the defects there existent. Since the outbreak of war more houses have become vacant, but overcrowding has largely increased.

Tables 25 and 26, beginning on page 61, form an extremely interesting record.

OVERCROWDING.

A large amount of overcrowding exists in the borough, and conditions arising out of the war have greatly increased the nuisance.

FACTORY AND WORKSHOPS ACT.

FACTORIES.

The inspection of these is in the hands of a factory inspector appointed by the Home Office. Any act, neglect, or default which can be dealt with under the Public Health Acts is referred to the Local Authority. Table 27 gives a list of matters so referred during 1915; with two exceptions, the necessary alteration had been carried out at the end of the year.

WORKSHOPS.

The number of workshops registered is 302. These were visited on 343 occasions and as a result the defects shown in table 28 were discovered and in due course remedied.

WORKPLACES.

Eighteen workplaces are registered, the trades carried on being in one instance that of a plumber, in seven a joiner, in three a wheelwright, in three a smith, and in two a mason. Two cab yards are registered.

BAKEHOUSES.

Reference to these will be found on page 18.

OUTWORKERS.

Occupiers of factories, workshops, or any place from which work of certain kinds is given out are compelled to keep a list of outworkers employed by them, and to send a copy of the list to the Local Authority on or before the 1st February and August in each year. Five lists referring to 7 persons were made out by employers during the year. None of the lists were sent in by the required dates. The outworkers were visited on 20 occasions and the surroundings under which the work was being done were found to be on the whole satisfactory.

Tables 29 and 33 furnish the returns annually required by the Home Office.

SANITARY ADMINISTRATION.

WORK CARRIED OUT BY THE VARIOUS MEMBERS OF THE STAFF.

The inspector of nuisances generally directs the work of the assistant inspectors, supervises the conversions of closets to the water carriage system, and is available for special investigations.

The five assistant inspectors of nuisances are district inspectors.

The nurses are employed in visiting houses in which a birth has occurred, in the supervision of midwives, in the medical inspection of school children and in following up cases of defects. They also take part in the treatment of children at the school clinic and act as tuberculosis nurses.

Both assistant medical officers of health, the whole time dental surgeon, the chief inspector of nuisances, four assistant inspectors, two third class clerks, and the driver of the motor ambulance are on active service. Certain of the vacancies in the staff have been filled by the appointment of temporary officers.

CORPORATION HOSPITALS.

PEASLEY CROSS HOSPITAL.

The borough isolation hospital at Peasley Cross was erected to provide accommodation for 92 patients. Cases of scarlet fever, diphtheria, typhoid fever, erysipelas, puerperal fever, and when necessary other diseases are treated. Tables 34 and 35 show the number of patients treated in the institution during the year, and the duration of treatment.

OLD WHINT HOSPITAL.

The small pox hospital is situated at Old Whint. Thirty-six patients can be isolated. The hospital has been unoccupied during the whole of the year.

ECCLESTON HALL SANATORIUM.

This institution has been fully occupied during the year. The necessity of further accommodation will soon have to be faced, and in this respect it is significant that no less than 34 poor law cases of pulmonary tuberculosis were treated in Whiston Infirmary in 1915.

The proportion of notified cases of infectious disease removed to hospital is given in table 36.

The total staff on duty in the hospitals at the end of December consisted of the matron, 4 sisters, 8 staff nurses, 3 temporary nurses, 17 probationers, 35 domestic servants, 3 porters, two gardeners, and an errand boy.

DISINFECTING STATION.

The disinfection station is situated at the Peasley Cross hospital. Visits to 841 houses were made for the removal of clothing and bedding for disinfection by steam. A list of the articles disinfected is given in table 37.

Infected rooms are now sprayed with a solution of formalin and closed for four hours. 3,659 rooms were disinfected during the year.

AMBULANCE STATION.

A motor ambulance is kept at the Peasley Cross hospital, to convey patients to either of the Corporation hospitals. During the year, the total distance covered was 12,180 miles.

PUBLIC MORTUARY.

This is situated at the rear of the town hall and consists of a brick building containing two rooms.

Thirty bodies have been placed in the mortuary during the year, and ten post-mortem examinations have been conducted.

ADMINISTRATION OF LOCAL OR ADOPTIVE ACTS.

Reference to this subject was made in the annual report for 1914.

CHEMICAL AND BACTERIOLOGICAL LABORATORY.

A well-equipped laboratory is provided at the town hall. Examination of material from suspected cases of disease is carried out free of cost at the request of a medical attendant. The Council now provide facilities for the diagnosis of cases of venereal disease, including the Wassermann reaction for syphilis.

The numbers of specimens examined during the year are shown in table 38.

Anti-toxins are provided free for persons suffering from diphtheria and other diseases. The total amount supplied during the year was 744,000 units.

PREVENTION OF AND CONTROL OVER ACUTE INFECTIOUS DISEASE.

NOTIFIABLE DISEASES.

Under the Infectious Diseases Notifications Acts, 1889 and 1899, the St. Helens Corporation Act, 1911, and Regulations made under the powers conferred by the Public Health Act, 1875, the following diseases are compulsorily notifiable in the borough :—

Smallpox.	Relapsing fever.
Cholera.	Puerperal fever.
Diphtheria.	Cerebro-spinal fever.
Membranous croup.	Ophthalmia neonatorum.
Erysipelas.	Acute poliomyelitis.
Scarlet fever.	All forms of tuberculosis.
Typhoid fever.	Measles and German measles.
Typhus fever.	Whooping cough.
Continued fever.	

The means adopted in the borough to control the spread of infectious disease do not differ in any material details from those given in the annual report for 1914. Table 82 on page 102 shows the ward distribution of the notified cases of infectious disease.

SMALLPOX.

No instance of this infection was notified during the year.

The number of cases notified and the number of deaths occurring from smallpox in the borough since 1873 are given in table 39 on page 70.

Although the town has been comparatively free from the disease for several years, it is to be feared that the increasing number of the population unprotected by vaccination will afford suitable material for an extensive epidemic. Table 40, on page 70, shows the extent of vaccination in St. Helens since 1897.

CEREBRO-SPINAL FEVER AND ACUTE POLIOMYELITIS.

Eight cases of cerebro-spinal fever were notified during the year, and four deaths were stated to be due to the disease. Of the notified cases three proved to be instances of other diseases.

DIPHTHERIA AND MEMBRANEOUS CROUP.

During the year, 289 cases with 32 deaths have been reported, giving an attack rate of 3·1 and a death rate of 0·34 per thousand of the population. Table 42 on page 72 sets out the record for previous years.

The number of cases removed to hospital was 269, or 93·0 per cent of the total cases notified. Table 41, page 71, gives a classification of the cases and the deaths according to the age of the patients.

ERYSIPELAS.

Seventy-four cases were notified and two deaths were stated to have taken place from the disease. Four cases were removed to the isolation hospital. Table 43 on page 73 gives a record of the notifications and deaths of former years.

SCARLET FEVER.

During the year, 501 notifications were received, and 12 deaths were reported.

The numbers for previous years are shown in table 44 on page 74.

The number of cases removed to hospital was 493, or 98·4 per cent. of those notified. Table 45, page 75, gives a classification of the cases and deaths at various ages from scarlet fever during the year.

TYPHOID FEVER.

Twenty-seven cases with six deaths were notified during 1915. Of the cases notified fourteen proved not to be instances of the disease. All the cases notified were removed to hospital. Table 48, page 76, gives the record for previous years.

PUERPERAL FEVER.

Ten women were reported during the year to be suffering from puerperal fever and three deaths were stated to be due to the disease. All the cases notified were removed to hospital. Table 49, on page 77, gives figures relating to the cases reported in previous years.

OPHTHALMIA NEONATORUM.

Seventy-one children were notified as suffering from this disease. Sixty-two of the children were nursed at home, being attended by private practitioners and district nurses, while of the more severe cases, nine were admitted into the isolation hospital.

MEASLES.

The number of cases reported during the year was 2,106, with 126 deaths. Table 50, on page 78, gives the record for previous years.

The deaths at various ages during 1915 are shown in table 46 on page 75.

The usual two yearly epidemic began in December, 1914, and continued until June of the following year. Measles in St. Helens is notoriously fatal and the type of the disease was not lacking in virulence. The occurrence of the epidemic was anticipated and the following steps were taken to attempt to check the ravages of the infection :—

Application was made to the Local Government Board for measles and whooping cough to be made compulsory notifiable diseases, the duty of notification to be placed on parents or guardians of the affected children, medical practitioners to be required to notify only the occurrence of the first instance of the disease in a house. There was unfortunately considerable delay in obtaining the sanction of the Board, and the St. Helens Measles and Whooping Cough Order did not come into force until the 1st August, 1915, a time when the outbreak had subsided. Measles is now a compulsory notifiable disease throughout the country.

A scheme of home visitation by the nurses from the Medical Officer's Department was instituted, the ordinary routine work of the staff being for the time suspended in order to allow prompt inquiry and frequent revisitation of the cases, but the absence of compulsory notification was undoubtedly a serious handicap.

The comparative freedom of the borough from scarlet fever and diphtheria permitted a large pavilion containing 40 beds to be set aside at the Isolation Hospital, and about a hundred children, dangerously ill from measles or its complications were admitted ; a large proportion of the cases came from insanitary areas. The results of this experiment in institutional treatment were extremely encouraging, and it is safe to assert that a considerable number of lives which in the absence of accommodation in hospital would have been lost, were saved by efficient nursing under hygienic conditions. Several patients admitted apparently at the point of death eventually made a good recovery.

Where admission is mainly sought for children dangerously ill and for those coming from insanitary homes a high death rate is only to be expected. Of those treated in the Isolation Hospital seventeen per cent. died, but of

this number no less than four per cent. succumbed within twenty-four hours of admission, in fact many of the children were kept at home until there was little hope of a successful termination to the attack.

Home nursing was not provided but it is likely that suitable and adequate provision will be forthcoming on the occurrence of the next epidemic.

WHOOPING COUGH.

Four hundred and seventy-four cases with 40 deaths were notified. Table 51, on page 79, gives a record of the extent of the disease in other years.

NON-NOTIFIABLE DISEASES.

DIARRHŒA AND ENTERITIS.

According to a system adopted by the Registrar General, deaths from diarrhoea and enteritis are divided up as they occur in children under or above two years of age. A further sub-division is made into infective and non-infective varieties of the diseases. The Local Government Board, on the other hand, requires a return of all deaths from diarrhoea and enteritis irrespective of the age of the deceased. During 1915, 78 deaths were attributed to diarrhoea or enteritis, and of these 68 occurred in children under two years, being a death-rate from these diseases of 22.9 per 1,000 births. Table 47 on page 77 shows the deaths at certain age periods from both diseases.

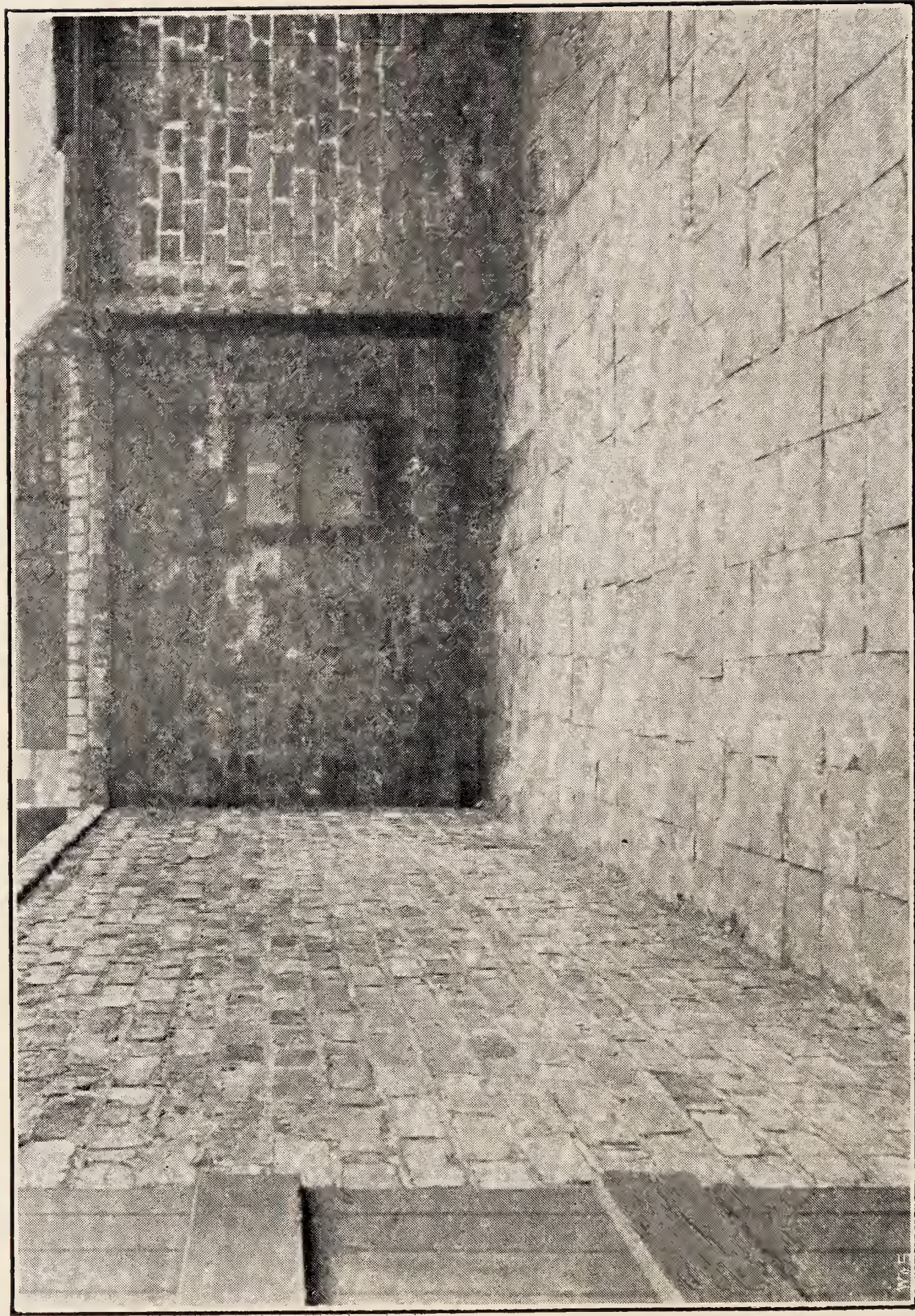
The figures for other years are given in table 52 on page 80.

During the past year in St. Helens a further attempt was made to bring home to the public the seriousness of the disease. More frequent home visitation of young children was carried out by the nurses, particularly during the summer months, special attention being given to those living in insanitary areas, cards and leaflets with simple instructions concerning the dangers to be avoided were taken to homes containing children under two years of age.

Notices were posted in conspicuous situations drawing attention to the perils arising from the prevalence of flies, and the need for domestic cleanliness. Shopkeepers were warned that contamination of food by flies might lead to seizure under the sections of the Public Health Acts relating to the sale of unsound food.



An Open Ashpit.



A Sanitary Yard provided with a Tippler Ashbin.

PREVENTION OF AND CONTROL OVER TUBERCULOSIS.

PULMONARY TUBERCULOSIS.

During the year 222 notifications were received, 19 of the cases had been previously notified, 99 deaths from the disease were recorded. Table 53, on page 81, shows the number of notifications of pulmonary tuberculosis received each year since 1913, and also the number of deaths stated to be due to the disease.

Table 54, page 82, shows the division into age and sex groups of the primary notifications received.

Twenty-four deaths due to pulmonary tuberculosis occurred in persons concerning whom no notification had been received, and in a considerable number of cases the notifications were made within a short period before death. The interval between the time of notification and of death is shown in table 55 on page 82.

The steps which are taken to prevent the spread of the disease are similar to those set out in the annual report of 1914.

OTHER FORMS OF TUBERCULOSIS.

One hundred and thirty-five notifications have been received during 1915, of which 9 had been previously notified, 56 deaths have been recorded. Table 57, on page 83, shows the number of deaths attributed to forms of tuberculosis other than pulmonary since 1873. Up to the present, hospital accommodation has not been generally provided by the Local Authority for instances of non-pulmonary tuberculosis. Table 56 gives the age and sex distribution of the notifications received. Steps similar to those previously detailed are taken to follow up and prevent the spread of infection.

Table 58 on page 84 gives a record of cases admitted to Ecclestone Hall, and in table 59 is shown the present condition of the patients discharged.

TUBERCULOSIS DISPENSARY.

The dispensary is situated in Cloughton Street.

The number of patients attending the dispensary is set out in table 60.

The nurses made 237 first-visits and 1,229 re-visits to notified cases and as a result of inquiries into the possible sources of infection, it was found that in 23 per cent. of the cases a definite history could be obtained of close association with a person known to have been suffering from the disease.

VENEREAL DISEASE.

St. Helens was one of the first towns to provide free facilities for the diagnosis of cases of venereal disease, and in 1915 further progress was made, five patients being admitted to the Isolation Hospital.

In view of the wide-spread damage to life and health occasioned by venereal disease it is surprising that an organised campaign, directed towards the prevention and cure of these contagious disorders should have been so long delayed. Fortunately, before this report is printed steps will have been taken by the Local Government Board to institute a scheme whereby municipalities shall provide facilities for free advice and treatment for those sufferers desirous of obtaining the advantages of modern scientific methods.

There are two diseases to which the term venereal is generally applied : syphilis and gonorrhoea.

The former is an infection of the blood, somewhat analogous to malarial fever. It is the cause of a large proportion of all cases of insanity and of mental defects in children, besides being an active agent in the destruction of infant life. The disease can be cured by introducing into the blood a recently discovered chemical preparation.

Gonorrhoea is an infection of the genito-urinary canal by a specific micro-organism—the gonococcus. The disease is dangerous to life, a cause of life-long disablement, particularly in women, and of acute inflammation of the eyes in new-born children not infrequently ending in blindness. Gonorrhoea is not difficult to cure, but unless efficiently treated the sufferer is liable to remain infectious for a long period.

A careful inquiry into the deaths which took place in the borough during the year showed that excluding infant deaths at least 11 could be attributed to the immediate or remote effects of venereal disease. The table on page 98 gives an analysis of the cases.

INVESTIGATION OF OTHER DISEASES.

CANCER AND MALIGNANT DISEASE.

Sixty-one deaths during 1915 were stated to be due to cancer and malignant disease.

Table 62, page 86, shows the figures for previous years.

Until the cause of the disease is known, any steps directed towards prevention will be somewhat uncertain. In view of the possibility that the disease may be due to a micro-organism, disinfection is always carried out at a house where death occurs. Although many substances have been used for the cure of the complaint, early and complete removal by a surgeon still affords the best chance of success. It cannot be too widely known that prompt and thorough removal of the growth will, in the majority of cases, prove successful in effecting a cure.

PULMONARY DISEASES OTHER THAN TUBERCULOSIS.

Four hundred and thirty-three deaths were certified to be due to respiratory diseases other than tuberculosis. The number of deaths from these diseases in previous years is shown in table 63 on page 87.

Table 64 on page 88 sets out the prevalence of certain winds and the number of deaths occurring from pulmonary diseases.

DEATHS FROM VIOLENCE.

The number of deaths which took place from violence was 61. Sixty-three inquests were held and 10 post-mortem examinations carried out.

UNCERTIFIED CAUSES OF DEATH.

In no less than 60 instances a death was registered without being certified by a medical practitioner or coroner. The alleged causes of these deaths as follows:—Natural causes, 2; Debility, 2; Heart failure, 4; Epileptic Fit, 2; Confinement, Diarrhoea, Vomiting, Embolism, 1; Convulsions, 15; Rupture of Blood Vessel, 1; Measles, Convulsions, 1; Premature birth, 3; Premature twin birth, 1; Breech Presentation, Asphyxia, 1; Pneumonia, Heart failure, 1; Teething Convulsions, 1; Senile decay, 1; Influenza, 1; Heart disease, 2; Natural causes, probably Bright's Disease, 1; Weak Heart, Heart failure, 1; Atelectasis, 1; Heart disease, Heart failure, 1; Chronic Catarrh of Stomach, 1; Cardiac failure, 3; Natural causes, probably Convulsions, 1; Cerebral Hæmorrhage, 1; Debility from birth, 1; Kidney disease, Heart failure, 1; Dropsy and Rheumatism, Heart failure, 1; Uræmia, 1; Cardiac disease, 1; Bronchitis, Cardiac failure, 1; Apoplectic seizure, 1; Paralytic stroke, 1.

MEANS FOR PREVENTING MORTALITY IN CHILDBIRTH AND INFANCY.

MIDWIVES ACT.

At the close of 1915, 34 women gave notices of their intention to practice within the borough during the ensuing year. The qualifications of these women were :—Central Midwives Board examination certificate, 14 ; other recognised certificate, 13 ; untrained, 7.

Of the total births occurring in the borough during the year, 96.4 per cent. were attended by midwives. No instance was discovered of a birth being attended by an uncertified midwife. The extent of the practices of the women vary considerably, one having attended 278 births while two others had only one case each.

Table 65 shows the work carried out by the midwives during 1915, and gives a record for previous years.

STILLBIRTHS.

The number of stillbirths notified during the year was 37. Four hundred would probably be much nearer the correct figure.

Table 66, page 89, shows the numbers notified each year since the adoption of the Notification of Births Act, and also the number buried in the cemeteries.

The prevalence of stillbirths in the practice of midwives shows much variation, the highest rate being eleven per cent of the births attended. The months of pregnancy during which the stillbirths took place were stated to be as follows :—

6th month	1
7th month	8
8th month	9
9th month	19

MEDICAL ASSISTANCE.

Under rules issued by the Central Midwives Board, a midwife must advise that medical assistance shall be obtained in any case where abnormal conditions occur during the confinement or in the lying-in period. The

conditions for which medical assistance was said to be required were as follows :—

Abnormal presentation	...	...	...	...	77
Deformed pelvis	...	...	...	...	15
Ante-partum hæmorrhage	...	...	...	...	35
Post-partum hæmorrhage	...	...	...	...	15
Retained placenta	...	...	...	...	31
Ruptured perinæum	...	...	...	...	64
Premature birth	...	...	...	...	35
Fever	...	...	...	...	2
Uterine inertia	...	...	...	...	67
Other causes	...	...	...	...	336
Ophthalmia neonatorum	...	...	...	...	14
					691

PUERPERAL FEVER, OPHTHALMIA NEONATORUM.

Particulars relating to these diseases are given on page 77.

INFANT WELFARE.

In my last annual report attention was drawn to some of the many causes of infant mortality, and it was then stated that certain influences acting on the mother before the birth of the child could bring about an early death of the infant or lay the foundation for years of ill-health. It is therefore clearly the duty of a sanitary authority to take such steps as may be necessary to remove or render inoperative the influences that are amenable to measures of sanitary reform, and to provide treatment, including where necessary the provision of hospital accommodation for expectant mothers, lying-in women and children. The obligations of sanitary authorities extend even further. Ignorance of the cause of disease and the means by which it is spread is largely responsible for the prevalence of sickness and the occurrence of death except that due to old age.

During the year 1915 the activities of the health department were increasingly directed towards infant welfare and in briefly reviewing the scope of the work it will be convenient to consider the subject under two headings.

ANTE-NATAL.

The home visitation of expectant mothers by a tactful, fully-trained nurse, possessing the certificate of the Central Midwives Board and having sanitary knowledge and experience as evidenced by a certificate from the Royal Sanitary Institute, may be looked upon as one of the most valuable methods of preventing infant mortality.

Visits to expectant mothers were made by nurses from the medical officer's department, and it reflects creditably on the staff that the visitors were without exception well received, and on many occasions gratitude was expressed for the advice and assistance provided. In instances where there was reason to suspect any abnormality or illness, arrangements were made for attendance at the maternity centre, lying-in outfits for mother and child were loaned to twenty-five expectant women in need of assistance, articles of food were supplied to certain cases and structural and other defects in the homes were reported to the medical officer of health, in order that appropriate steps might be taken to remedy the insanitary conditions. Owing to the lack of accommodation it was not possible to take many women into hospital. A small pavilion at the Isolation Hospital was however set apart as a maternity ward. Twenty-one mothers and fifty-seven babies were admitted during the year, the services of a consulting surgeon being retained for operative treatment.

POST-NATAL.

Under the Notification of Births Act it is compulsory that the occurrence of a birth shall be notified within thirty-six hours to the medical officer of health. Every birth taking place in the borough is visited by a trained nurse from the medical officer's department. In almost every case the first visit is made within five days from the time of birth, and while the midwife is still in attendance. Experience has shown that it is absolutely essential that the first visit shall be made as early as possible; a defect, default, or neglect existant from birth is likely to be dangerous in direct proportion to the time that is allowed to elapse before the remedy is forthcoming.

During 1915 all the births in the borough were notified, 96.4 per cent. by midwives and the remainder by doctors.

The visitor observes the condition of the mother and infant, spends some time in giving suitable advice concerning care and feeding of the baby, and in appropriate instances arranges for the supply of suitably prepared dried milk from the municipal maternity centre; sanitary defects in the houses are reported to the medical officer.

In the event of a serious complication arising during the lying-in period the mother and child are as a rule removed to the Isolation Hospital.

Unless the home circumstances appear to be favourable and the health and general condition of the infant satisfactory a revisit is made within a month ; unsatisfactory cases receive almost constant supervision.

After an interval of about a month has elapsed since the birth of the child, the mother is encouraged to bring the infant to the maternity centre in Parade Street in order that the baby may be medically examined, and its physical condition recorded. An attempt is made to concentrate on children who are ailing or whose family history or home surroundings suggest that there will arise more than usual risk in life.

The visits of the mothers to the centre are made the occasion of a short talk on infant management, the prevention of disease with practical demonstrations in the making of a suitable cot, infant clothing and other useful articles. Although the maternity centre and infant consultation were only established by the Health Committee in 1914 they have already become popular. Mothers bring to the centre infants concerning whose condition they need advice. The activities of the centre are under the direct supervision and control of the medical officer of health but the routine work is mainly carried out by the assistant medical officers and the nurses in the department ; for the successful working of the centre they are largely responsible.

The home visitation of delicate or defective children is not discontinued at the end of a year, revisits are made and attendance at the infant consultation is expected until it is considered that supervision may be safely discontinued.

MUNICIPAL MILK DEPOT.

During 1914 the preparation and distribution of pasteurised milk in bottles was discontinued, pure dried milk in the form of powder being supplied instead. The advantages of the use of dried milk were fully set out in the annual report for that year, and it need only now be said that the change has led to a wide extension in the usefulness of the depot, the average number of infants in receipt of milk during 1915 being seventy, whereas in 1913 there were less than twelve. The pasteurisation process, the breakage of bottles and the salary of the attendant were formerly an annual charge

on the rates of about £80, but the employment of dried milk and other certain alterations in details of management have resulted in a small profit on the year.

INFANT MORTALITY.

During the year there were no less than 384 deaths of infants under one year of age, giving a mortality of 129 per thousand births. Table 67 shows the infant death-rate in St. Helens since 1873, and also figures for England and Wales.

The extent of infant mortality in the various wards is given in table 68.

VITAL STATISTICS.

Table 69 on page 91 gives certain vital statistics relating to the borough since the year 1910 and in table 71 other important figures are shown. The diagram on table 70 illustrates the natural increase of the population—the excess of births over deaths.

BIRTHS.

The number of births registered during 1915 was 2,948; eighteen occurring in other districts were transferable to St. Helens, making a total of 2,966. The birth-rate for the year, based on the total population, was 29.02, but estimated on the civil population amounted to 32.1, showing a decrease in the figures for the previous year. The chart on table 72 show that an alarming decline has occurred in the birth-rate for St. Helens since 1873; the rate for St. Helens, however, is still above that for the rest of the country. Table 73 gives the birth-rate in the various wards of the town.

STILLBIRTHS.

Reference to these is made on page 34.

ILLEGITIMATE BIRTHS.

There were 92 illegitimate births registered, being 0.90 per thousand of the population, a decrease in the figures of the preceding year. Table 74 on page 95 shows the proportion of illegitimate births during past years. Those who foretold the advent of innumerable “war babies” are now shown to be false prophets.

MARRIAGES.

The number of marriages during the year has been 745, giving a marriage rate (persons married) of 14.58 per thousand of the total population. Table 75, on page 95, shows the rate for past years.

DEATHS.

The total number of deaths registered as having taken place within the borough during the year is 1,722. Of these 157 were deaths in St. Helens of persons usually resident in other parts; and were transferred by the Registrar General to the districts to which they belonged; 215 deaths of persons usually living within the borough occurred in other places, giving a total of 1,780 as the actual number of deaths to be accepted in estimating the death-rate for the year, and a recorded death-rate of 19.29 per thousand of the estimated civil population. A recorded death-rate is, on the whole, a trustworthy test of the health of a large population, but for comparing

one district with another, it may lead to fallacies, because no account is taken of the age and sex distribution of the two localities. A high proportion of old persons naturally raises the recorded death-rate of an area. In order to allow for the varying constitution as to age and sex of the population of different towns, the Registrar General issues a factor of correction for each area, and when the recorded death-rate is multiplied by this factor, a corrected death-rate is obtained. The corrected death-rate is 20·8, a most unsatisfactory figure. Table 76 shows the recorded death-rate in St. Helens since 1873.

The death-rates in the different wards for 1915 are set out in table .

Figures relating to the causes of and ages at death during the year are given in table 78 on page 98.

AN ACCOUNT OF OTHER WORK.

In addition to the usual fortnightly statements of births, deaths, and infectious disease, many special reports have been made to the Committee during the year by the medical officer of health. These have related to the Sale of Food and Drugs Acts; reports by the veterinary inspector; offences by midwives, and many other matters.

SHOPS ACTS, 1912 AND 1913.

Application was made during the year for further Closing Orders, and after consideration the Council applied for and obtained the St. Helens Closing Order, 1915, which is briefly as follows :—

(a) Shops in which the retail trade or business of a Tailor, Draper, Gentlemen's Outfitter, or Pawnbroker is carried on :

Day of the week.	Closing Hour.
Monday	8-0 p.m.
Tuesday	7-0 p.m.
Wednesday	7-30 p.m.
Thursday	Weekly Half-holiday. Shop closed at 1-0 p.m.
Friday	9-0 p.m.
Saturday	10-0 p.m.

(b) Shops in which the retail trade or business of a Milliner or Ladies' Costumer is carried on :

Monday	8-0 p.m.
Tuesday	7-30 p.m.
Wednesday	7-30 p.m.
Thursday	Weekly Half-holiday. Shop closed at 1-0 p.m.
Friday	9-0 p.m.
Saturday	10-0 p.m.

(c) Shops in which the retail trade or business of an Ironmonger is carried on :

Monday	7-0 p.m.
Tuesday	7-0 p.m.
Wednesday	7-0 p.m.
Thursday	Weekly Half-holiday Shop closed at 1-0 p.m.
Friday	8-30 p.m.
Saturday	9-30 p.m.

(d) Shops in which the retail trade or business of a Boot or Shoe Dealer is carried on :

Monday	7-30 p.m.
Tuesday	7-30 p.m.
Wednesday	7-30 p.m.
Thursday	Weekly Half-holiday Shop closed at 1-0 p.m.
Friday	9-0 p.m.
Saturday	10-0 p.m.

(e) Shops in which the retail trade or business of a Barber or Hair-dresser is carried on :

Sunday	7-0 p.m.
Monday	8-0 p.m.
Tuesday	8-0 p.m.
Wednesday	8-0 p.m.
Thursday	Weekly Half-holiday. Shop closed at 1-0 p.m.
Friday	9-0 p.m.
Saturday	9-0 p.m.

The weekly Half-holiday orders at present in force in the borough are as follows :—

“ The week day in every week on which the shops in the Borough of St. Helens in which the retail trades or businesses mentioned in the first schedule hereto are carried on, are to be closed for the serving of customers not later than one o'clock in the afternoon, shall be Thursday ; Provided that Saturday may be substituted for Thursday as respects any shop in which notice to that effect is affixed by the occupier.”

“ The week day in every week on which the Shops in the Borough of St. Helens in which the retail trades or businesses mentioned in the second schedule hereto are carried on, are to be closed for the serving of customers not later than one o'clock in the afternoon shall be Saturday ; Provided that Thursday may be substituted for Saturday as respects any shop in which notice to that effect is affixed by the occupier.”

The first schedule comprises, with one known exception, every trade not exempted by the second schedule of the Shops Act, 1912, the exception being that meat which has been treated so as not to be of a perishable nature has not been mentioned in the schedule, and this allows shop-keepers to choose their own weekly half-holiday with respect to meat of this class.

The second schedule comprises builders, plumbers, etc., saddlers and scales and weights dealers.

A weekly half-holiday extension order is in force for butchers and chemists as follows :—

- (a) “ The provisions of Section 4 of the Shops Act, 1912, are hereby extended to shops in which the following retail trades or businesses are carried on, viz. :—
The sale of Meat.
The sale of medicines and medical and surgical appliances.

(b) The week day in every week on which the shops in the Borough of St. Helens mentioned in Sub-section (a) of this article, are to be closed for the serving of customers not later than one o'clock in the afternoon shall be as follows:—

“Shops in the East Sutton Ward of the said Borough in which the retail trade or business of the sale of meat is carried on MONDAY.

“Shops in the Borough other than the East Sutton Ward in which the retail trade or business of the sale of meat is carried on THURSDAY.

“Shops in which the retail trade or business of the sale of medicines and medical surgical appliances is carried on THURSDAY.

Provided that Saturday may be substituted for Monday or for Thursday as the case may be as respects any Shop in which notice to that effect is affixed by the occupier.

There has been a considerable amount of evasion of the requirements of the Shops Acts. Proceedings were instituted against several offenders, but the fines imposed were unlikely to act as a deterrent to wrongdoers.

NATIONAL INSURANCE ACT, 1911.

In the absence of a permanent agreement, a temporary arrangement is still in operation whereby the Council in return for an annual payment by the Insurance Committee of a lump sum, calculated on the basis of eightpence for every insured person in the area, provides sanatorium or hospital accommodation followed by treatment at a dispensary for all insured persons suffering from pulmonary tuberculosis, and recommended by the Insurance Committee for sanatorium benefit.

It can be safely asserted that in no other area has an Insurance Committee made with a Local Sanitary Authority so remunerative an investment.

Patients are accepted irrespective of the stage of the disease; there is no waiting for admission. Cases are taken into the sanatorium immediately after medical examination at the dispensary and there is no curtailment of the length of treatment. In instances where it appears advisable the three months' course is extended to six months or even longer.

The Council furnishes the Insurance Committee with the free services of the medical officer of health in his capacity as chief tuberculosis officer. The dispensary facilities are not limited to examination and advice, but include the provision of drugs, cod liver oil and the necessary certificates. The bacteriological examination of sputum and the use of the X ray apparatus are also provided in the scheme.

During 1915, a total of 8,576 days institutional treatment was provided by the Council for insured persons, the cost per week of the maintenance of a bed in Eccleston Hall Sanatorium was approximately £1/17/6,

the Insurance Committee therefore received the equivalent of £2,500, together with dispensary treatment amounting to 870 attendances, in all to about £2,600.

The maximum annual payment by the Insurance Committee to the Council in the most favourable circumstances would be £1,100, and as a matter of fact the actual figure is likely to be considerably less, thus there appears every reason why the Insurance Committee should be content to continue the present temporary arrangements.

THE WAR.

For the second year a very considerable amount of work directly arising out of the war has been carried out by the medical officer of health and his staff. It has to be stated, however, that there has been on the part of the military authorities a marked absence of co-operation, particularly as regards the billeting of troops. It is obviously desirable, before billeting occurs in any area that the medical officer of health should be consulted as to the condition of the locality with respect to the suitability of the houses, the prevalence of infectious disease, the water supply and the sanitary accommodation. The War Office, realising the benefits likely to be obtained from the expert advice of local medical officers of health in October, 1914, issued instructions that before billeting took place the medical officer of health of the district should be informed and consulted.

Although billeting has been carried out on several occasions in St. Helens during 1915 no official intimation of the fact has yet been received.

It is regretable that the services of medical officers of health have not been more generally used by the military authorities, the local and expert sanitary knowledge possessed by public health departments would have prevented the occurrence of incidents such as that of a hutment which was erected to accommodate several thousand men on the fringe of a borough. The slop water from a portion of the camp, after passing through an inefficient filtration chamber of inadequate dimensions, was discharged into a stream, which eventually flowed through the grounds of a Sanatorium, and in due course became grossly polluted. The refuse from this camp was removed by a contractor who tipped the greater part of the material near to one of the entrances, and within a few yards of dwelling houses.

As the result of a request from the Local Government Board close observation was kept on premises where food, to be supplied to troops was prepared or stored, and reports on the insanitary condition of a bakehouse and a private slaughterhouse were submitted to the Board,

Summary of Tables.

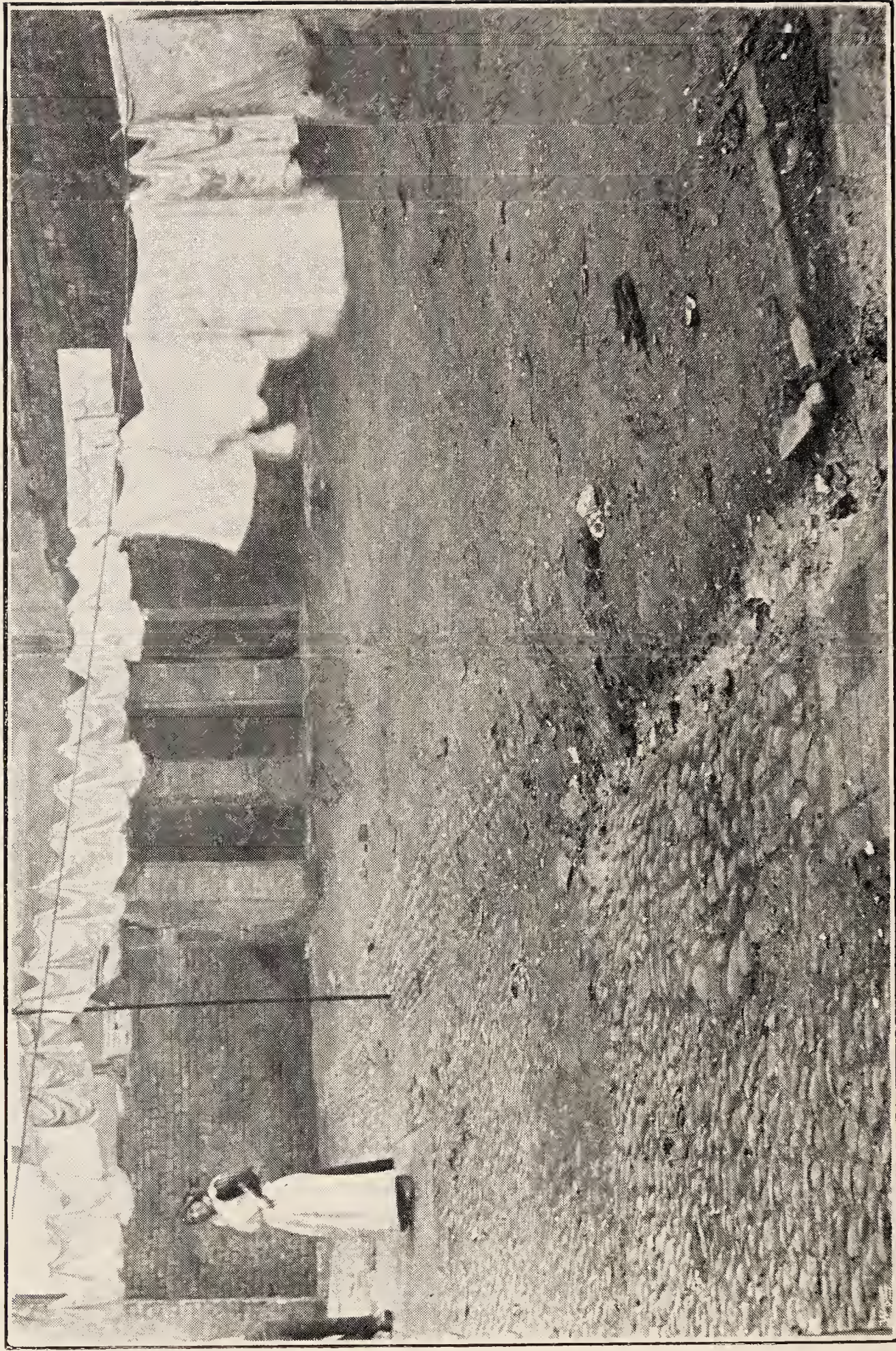
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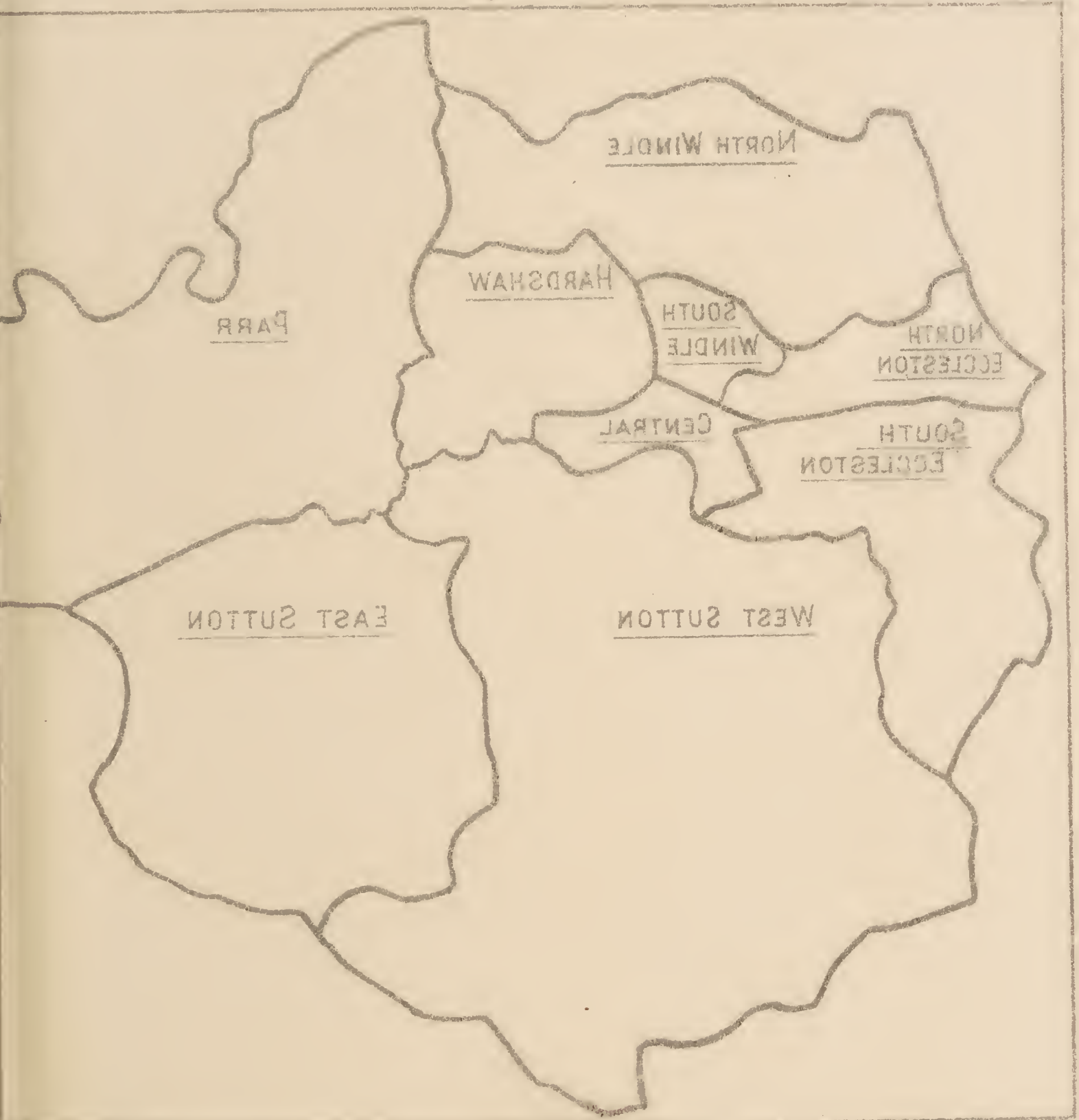
A Common Yard with defects arising from the Tub and Pail System.



An Insanitary Common Yard.

Table 1.

Showing the position of the wards, the average, estimated population for 1911, and the density of each, calculated on the approximate area built upon.

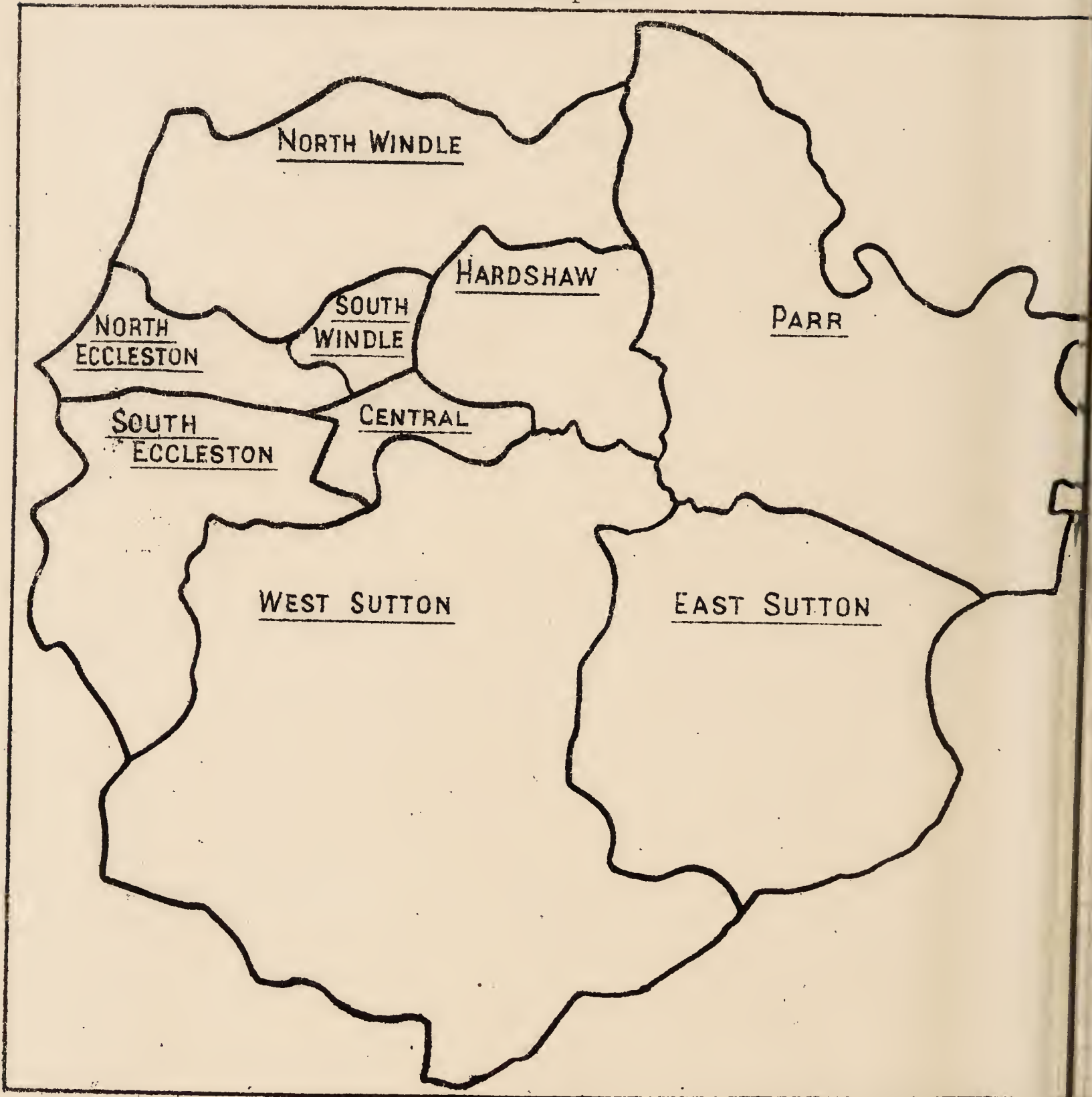


The population, average, and density of persons in each ward.

Ward	Population	Area in acres	Average population per acre	Density per acre built upon
North Eccleston	13,050	235.439	135	130.8
South Eccleston	13,050	621.025	118	72.4
Central	6,225	91.459	3	67.4
North Windle	12,680	607.081	117	51.9
South Windle	8,505	67.116	0	127.9
Hardshaw	12,630	312.081	160	66.9
East Sutton	12,670	1,312.319	1190	103.8
West Sutton	10,900	2,420.151	2,300	22.7
Parr	12,100	1,181.550	1,391	112.5

Table 1.

Showing the position of the wards, the acreage, estimated population for 1915, and the density of each, calculated on the approximate area built upon.



The population, acreage, and density of persons in each ward.

WARD.	Population.	Area in acres.	Approximate Acreage unbuilt on.	Persons per Acre built upon.
North Eccleston	13,020	235·439	135	130·8
South Eccleston	13,030	621·625	448.	75·4
Central	6,225	94·459	2	67·4
North Windle	12,680	697·084	447	51·9
South Windle	8,505	67·116	0	127·9
Hardshaw	12,030	342·684	160	66·9
East Sutton	12,650	1,312·319	1,190	103·9
West Sutton	10,960	2,429·151	2,300	85·7
Parr	13,100	1,484·550	1,394	145·5

Table 2.

TOTAL RAINFALL IN INCHES IN S. HELENS SINCE 1890

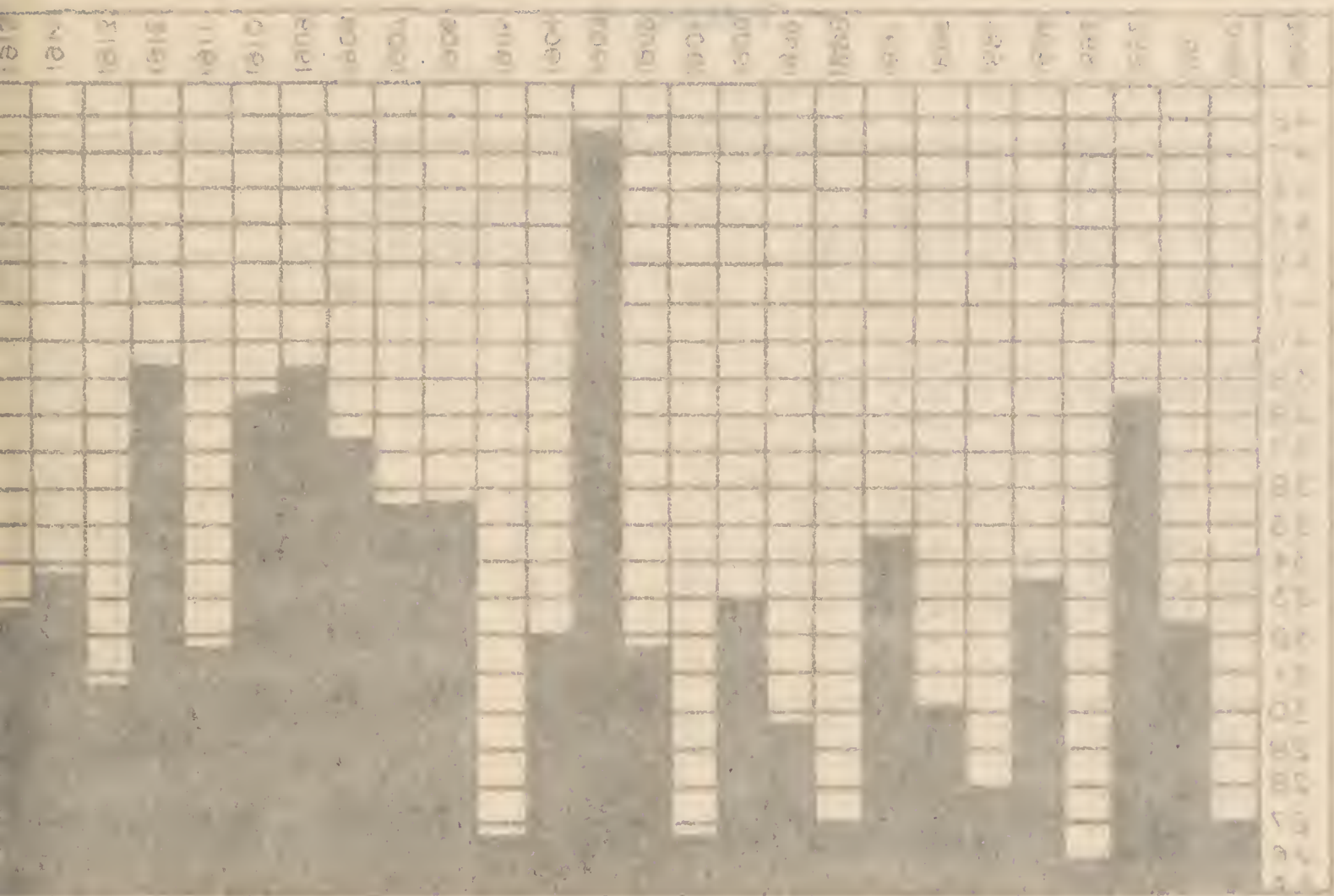


Table 3.

THE MEAN TEMPERATURE OF THE SOIL AND

THE WEEKLY NUMBER OF DEATHS FROM DIARRHOEA & ENTERITIS

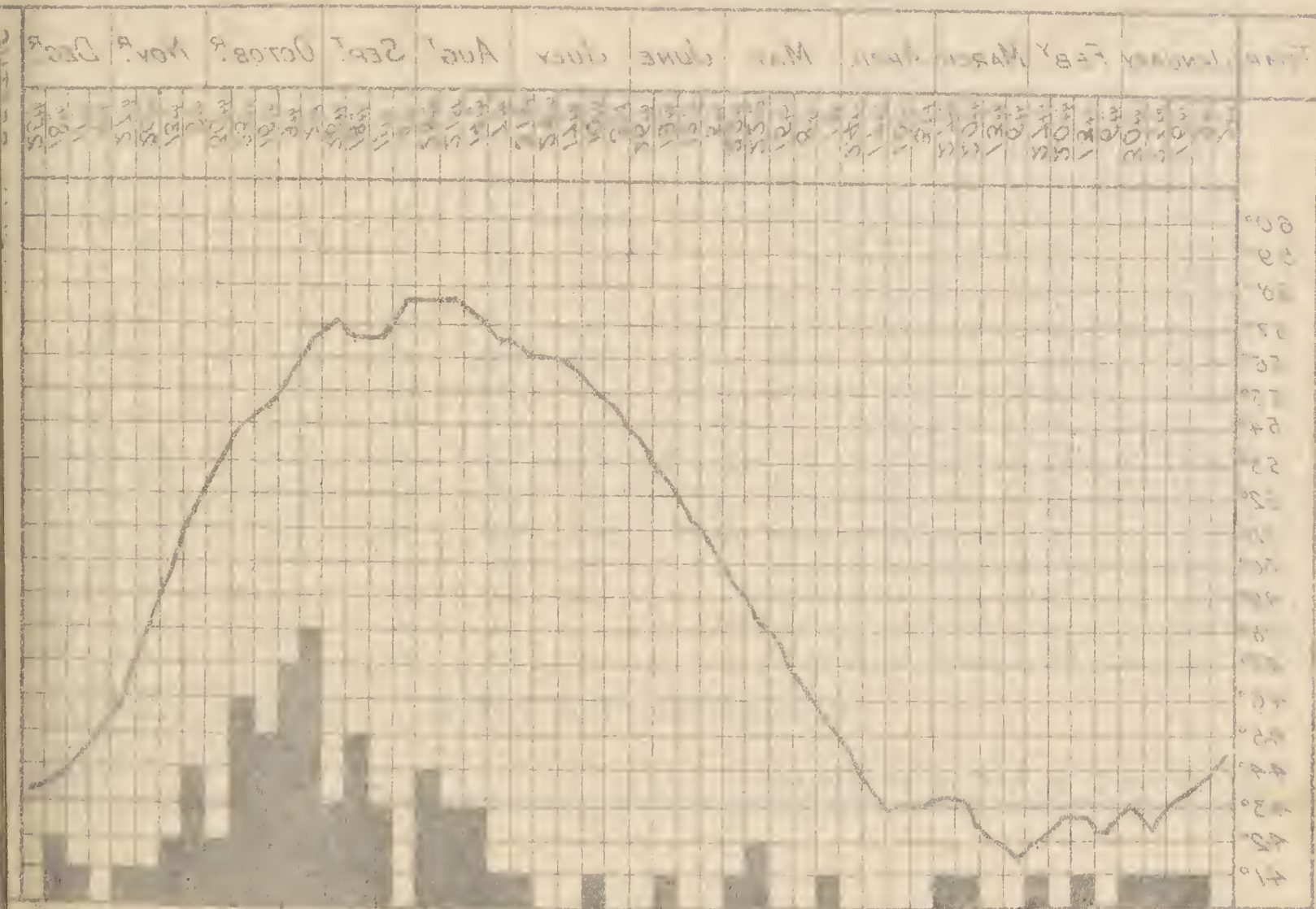


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Showing the position of the wards, the acreage, estimated population for 1915, and the density of each, calculated on the approximate area built upon.



The population, acreage, and density of persons in each ward.

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Parr	13,100	1,484·550	1,394	145·5

Table 2.

TOTAL RAINFALL IN INCHES IN 21 YEARS SINCE 1880

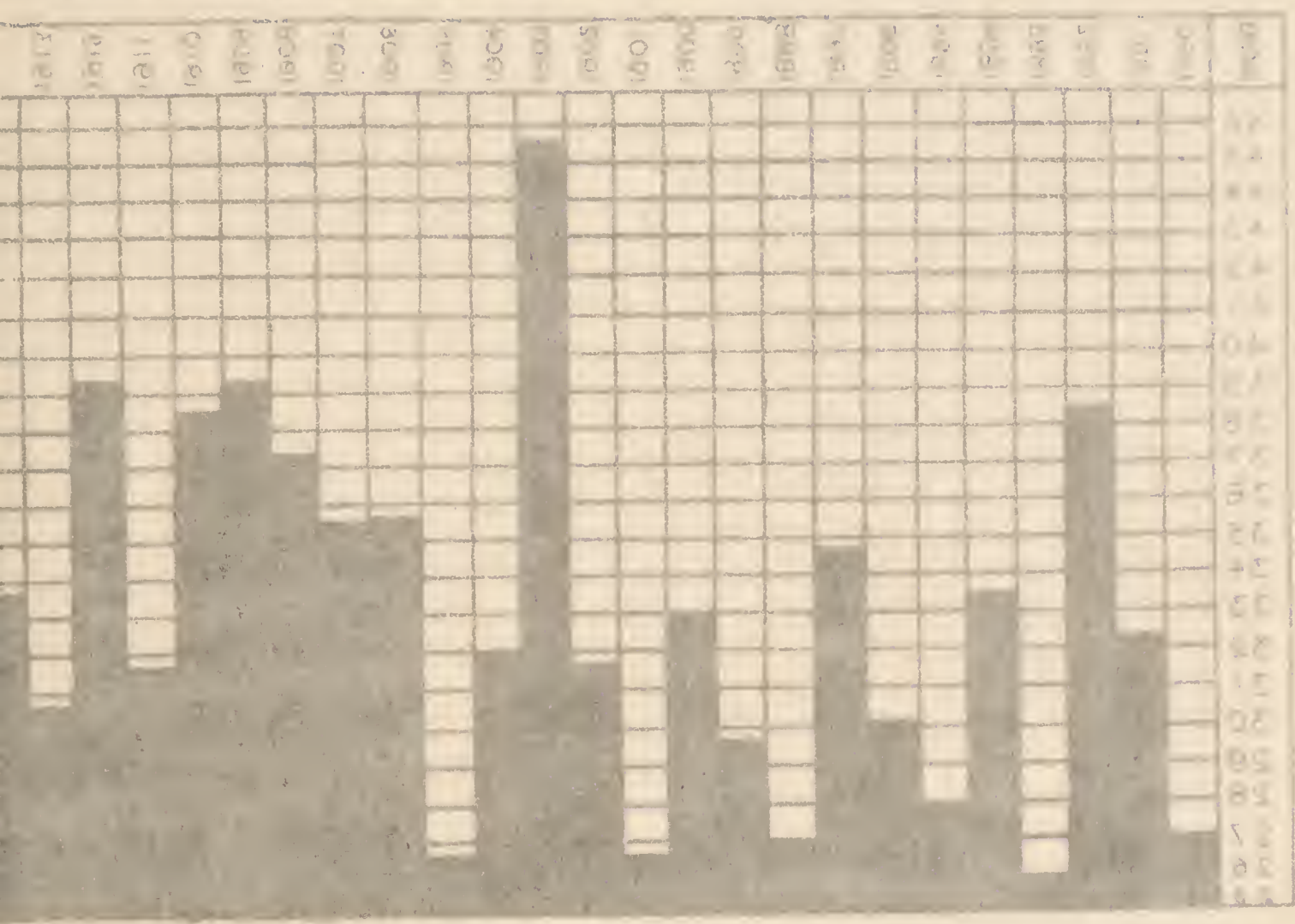


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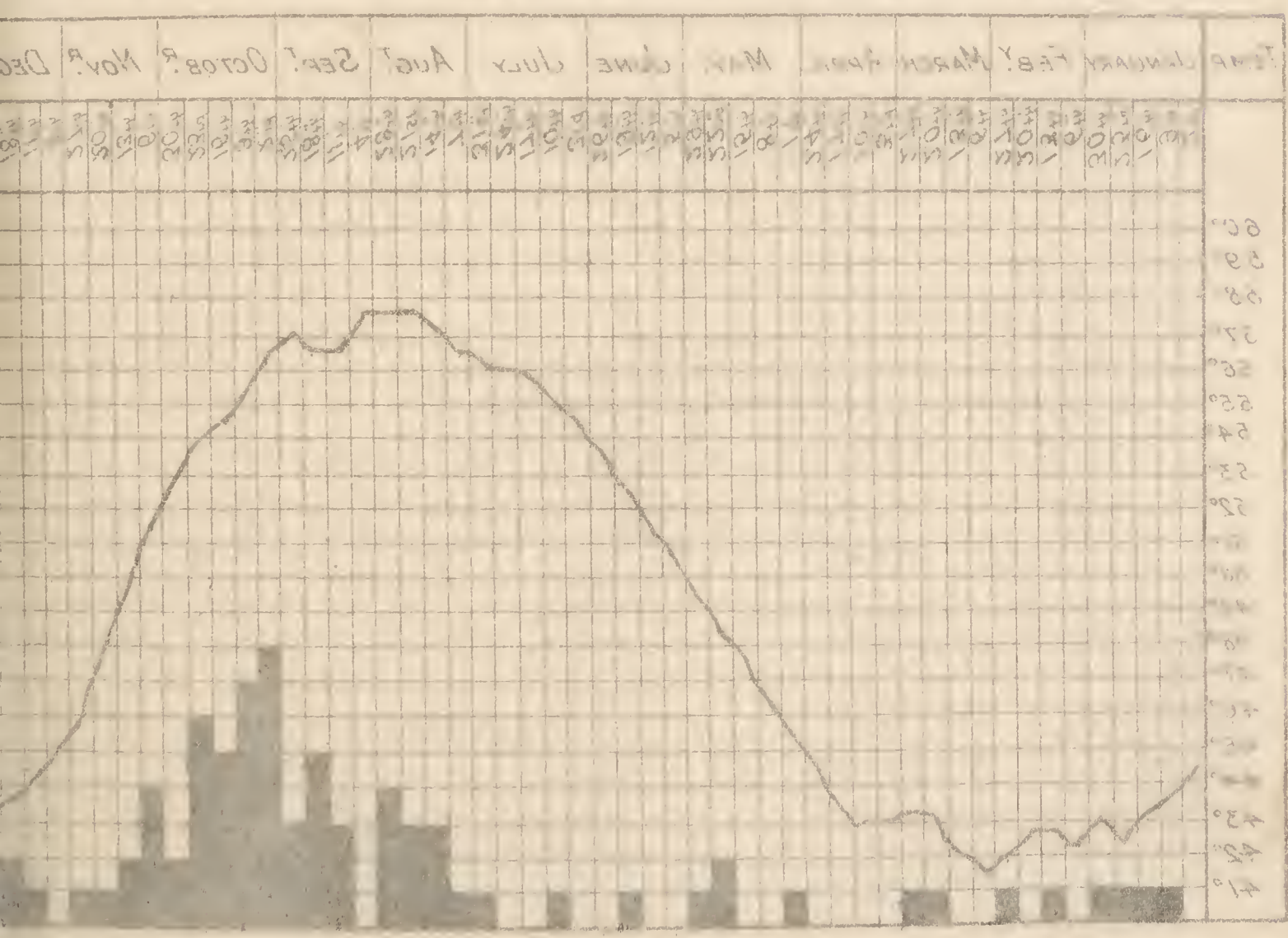
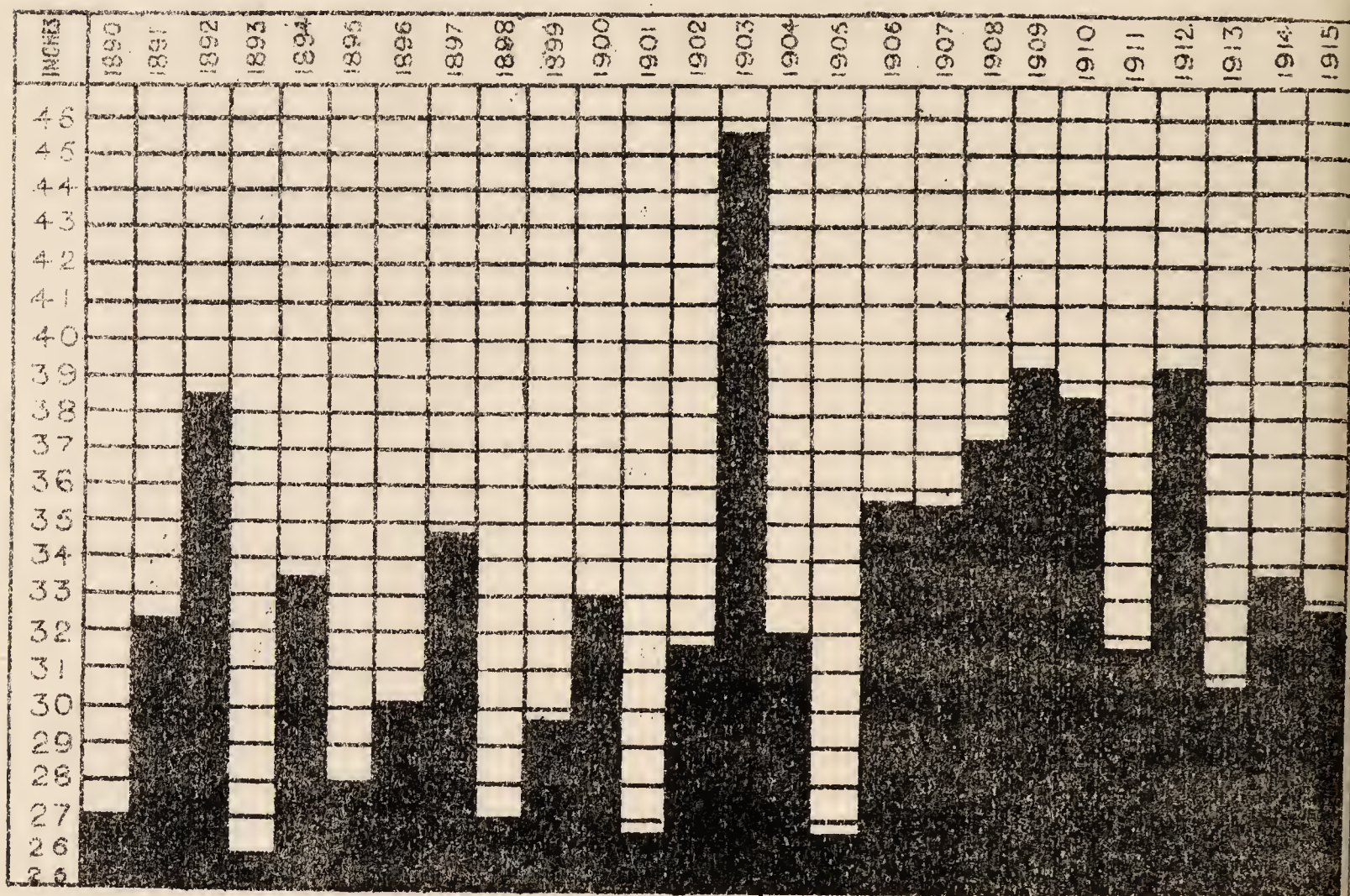


Table 2.*TOTAL RAINFALL IN INCHES IN ST HELENS SINCE 1890.***Table 3.**

*THE MEAN TEMPERATURE OF THE SOIL AND
THE WEEKLY NUMBER OF DEATHS FROM DIARRHOEA & ENTERITIS.*

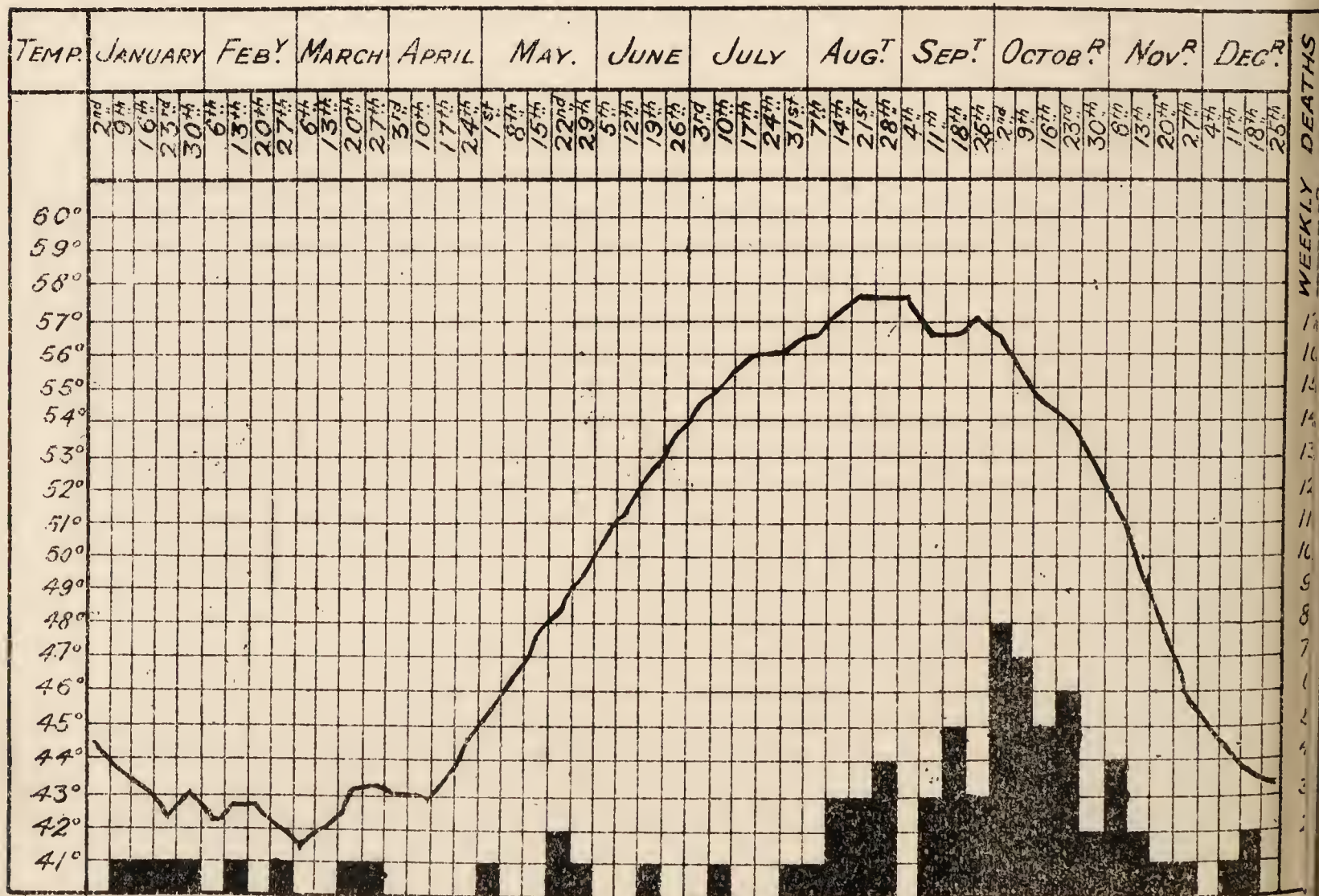


Table 4.

WEEKLY RECORD OF METEOROLOGICAL CONDITIONS TAKEN AT
VICTORIA PARK.

WEEK ENDING.	Mean barometer in inches.	Maximum temperature	Minimum temperature	Mean temperature	Mean soil temperature (4 feet.)	Rainfall (total ins.)	WIND								Force of W	
							Direction of Wind.								Total Mileage	Max- m'ag per hour
							Number of Hours per Week.									
							N	NE	E	SE	S	SW	W	NW		
Jan. 2	29.081	48.0	31.5	38.0	44.3	1.57	—	—	—	23	18	7	—	—	764	16
„ 9	29.099	46.0	34.0	41.8	43.7	1.58	6	6	2	18	25	42	24	43	560	10
„ 16	29.461	45.5	33.0	45.1	43.2	1.86	1	—	—	7	16	57	57	29	596	12
„ 23	29.466	49.5	30.5	39.0	43.5	0.29	23	—	1	—	3	16	41	77	1,204	20
„ 30	29.500	41.5	28.0	34.3	43.0	0.00	13	17	50	7	—	—	10	6	358	4
Feb. 6	29.382	52.0	33.0	41.1	42.2	1.23	—	—	—	12	16	9	4	6	576	16
„ 13	29.150	49.0	29.5	39.0	42.8	0.72	—	6	36	73	36	9	7	—	1,024	26
„ 20	29.089	49.0	29.5	30.6	42.7	0.66	12	12	—	35	39	27	15	16	832	18
„ 27	29.572	45.0	26.0	35.7	42.0	0.39	20	—	1	13	32	23	45	31	746	20
Mar. 6	29.618	53.0	35.0	43.4	41.5	0.68	—	—	—	10	13	52	77	20	1,970	30
„ 13	29.972	51.5	32.0	42.0	42.1	0.18	23	15	—	—	—	9	67	51	1,533	20
„ 20	29.698	50.0	29.0	41.5	43.0	0.33	21	2	—	—	2	12	74	48	1,574	22
„ 27	29.758	57.1	25.0	43.5	43.2	0.24	12	52	23	38	11	7	17	7	968	18
April 3	29.724	50.5	25.0	38.7	43.1	0.42	19	23	5	7	29	37	34	10	810	14
„ 10	29.553	54.0	35.0	43.6	43.0	0.76	—	—	—	8	8	71	59	17	1,536	30
„ 17	30.000	54.9	34.6	48.0	43.7	0.27	6	—	—	4	5	32	43	67	969	20
„ 24	29.910	56.0	31.7	44.9	44.5	0.19	8	14	10	3	16	39	35	40	912	20
May 1	30.046	69.5	39.0	50.5	45.2	0.22	4	49	53	9	3	16	1	15	1,100	20
„ 8	29.893	66.0	37.0	50.5	46.2	0.60	7	—	18	2	1	2	6	19	988	20
„ 15	29.926	63.5	30.0	39.2	47.6	0.93	7	14	63	9	8	11	23	31	1,340	22
„ 22	29.676	71.0	37.5	53.0	48.1	0.29	10	15	46	53	28	3	5	7	1,224	24
„ 29	30.012	77.0	39.0	58.2	49.5	0.12	6	25	83	14	1	3	15	20	1,304	20
June 5	29.959	70.0	34.0	52.8	50.9	0.20	5	—	3	16	30	12	39	61	852	12
„ 12	29.949	73.5	41.0	55.6	52.4	0.07	6	1	28	34	27	9	23	42	588	12
„ 19	30.121	76.6	41.9	58.3	53.4	0.00	4	4	100	40	7	—	2	6	1,062	20
„ 26	29.848	70.9	41.3	56.4	54.6	1.00	6	4	83	46	14	5	—	9	1,029	18
July 3	29.800	68.7	47.7	59.4	55.0	0.55	5	—	7	16	21	23	41	56	804	14
„ 10	29.815	70.2	49.7	58.1	55.7	1.16	12	—	16	32	12	3	28	61	1,460	24
„ 17	29.577	62.9	47.8	56.2	56.0	1.30	15	1	3	6	8	19	71	43	1,605	24
„ 24	29.675	69.5	52.0	59.6	56.1	0.22	—	—	—	1	32	53	58	28	1,570	24
„ 31	29.787	67.0	49.0	57.6	56.4	0.75	—	—	8	19	27	29	47	37	940	24
Aug 7	29.674	69.5	50.0	60.1	56.8	0.59	7	3	33	31	21	12	30	29	867	14
„ 14	29.890	72.7	47.0	60.4	57.3	1.60	7	1	26	32	44	34	13	8	531	14
„ 21	29.909	67.0	49.9	57.9	57.8	1.30	8	1	28	7	7	7	48	60	1,128	14
„ 28	30.060	68.3	50.3	58.6	57.8	0.00	6	—	—	8	2	6	74	69	809	14
Sept. 4	29.750	62.3	39.0	52.3	57.6	1.36	28	5	5	8	7	16	37	68	926	24
„ 11	30.134	73.8	40.5	55.6	56.9	0.00	2	—	38	73	26	18	4	6	652	14
„ 18	29.981	71.4	50.1	61.1	56.9	0.11	1	1	17	23	37	28	38	21	470	14
„ 25	29.861	71.5	48.0	59.1	57.1	0.19	—	1	29	38	17	12	15	15		
Oct. 2	29.439	63.7	32.7	47.9	56.8	0.35	42	4	18	24	3	9	27	40		
„ 9	29.982	57.5	32.2	49.3	55.3	0.01	8	6	44	85	11	6	1	1		
„ 16	29.813	62.8	38.3	53.4	54.7	0.33	5	—	24	64	40	10	14	9		
„ 23	29.979	57.4	38.7	42.5	54.0	0.06	—	1	29	90	44	3	—	—	108	14
„ 30	29.743	53.7	33.9	44.5	52.9	1.45	20	24	14	37	50	15	2	5	871	14
Nov. 6	29.628	51.8	28.8	40.6	51.4	0.16	47	33	19	13	4	7	12	31	1,052	24
„ 13	29.211	49.5	35.0	42.3	49.8	1.84	12	6	21	3	2	12	55	55	1,986	34
„ 20	29.966	43.1	23.3	33.7	48.4	0.37	13	6	41	34	10	10	26	27	416	
„ 27	30.169	42.4	20.8	33.5	46.4	0.00	12	3	19	69	9	—	9	21	357	
Dec. 4	29.235	44.0	21.0	36.0	45.0	0.54	1	9	35	61	40	7	7	6	546	14
„ 11	29.102	52.6	28.7	41.7	44.2	2.34	—	1	24	35	30	44	22	8	1,293	34
„ 18	29.615	47.9	29.6	38.7	43.9	0.49	27	10	7	44	24	16	8	30	619	14
„ 25	29.402	49.9	26.5	40.4	43.5	0.97	—	3	15	43	36	32	37	4	795	24
Total						32.84	497	378	1125	1377	942	941	1407	1486	46,164	34
Mean	29.726	59.7	34.9	45.8	49.3	0.63										Highest

Table 5.

The population of the borough at each census period.

Census of	*1801	*1811	*1821	*1831	*1841	1851	1861	1871	1881	1891	1901	1911
Eccleston ..	1,362	1,584	1,931	3,259	6,247	—	—	—	—	—	—	—
Sutton.....	1,776	2,114	2,329	3,173	4,095	—	—	—	—	—	—	—
Parr	1,183	1,405	1,523	1,942	3,310	—	—	—	—	—	—	—
Windle	3,252	4,294	4,820	5,825	6,918	—	—	—	—	—	—	—
St. Helens..	7,573	9,397	10,603	14,199	20,570	25,660	38,135	45,548	57,940	72,413	84,410	96,550

* Previous to 1851, the populations given are those of Eccleston, Sutton, Parr, and Windle, and are not strictly comparable to those of the present borough.

Table 6.

Population of the various wards as shown by census returns.

WARDS.	Area in Statute Acres (Land and Inland Water).	Families or Separate Occupiers.		POPULATION.				Institutions, Large Establishments, Vessels, etc., 1911 (included in cols. 4 & 6).	
		1901	1911	1901	1911			Number	Popu- lation.
				Persons	Persons	Males	Females		
1.	2.	3.	4.	5.	6.	7.	8.	9.	10.
St. HELENS....	7,284	15,390	17,833	84,410	96,551	50,309	46,242	28	1.981
North Eccleston...	235.43	—	2,253	10,551	12,252	6,425	5,827	—	—
South Eccleston...	621.62	—	2,337	8,835	11,873	6,036	5,837	—	—
Central	94.4	—	1,077	5,235	6,336	3,457	2,879	12	369
North Windle	697.08	—	2,446	11,457	12,188	6,057	6,131	—	—
South Windle	67.11	—	1,533	8,315	8,279	4,261	4,018	1	59
Hardshaw	342.68	—	2,160	9,690	11,526	6,128	5,398	6	250
East Sutton	1,312.31	—	2,179	9,524	11,584	6,186	5,398	3	133
West Sutton	2,429.15	—	1,653	9,524	10,304	5,278	5,026	5	1,040
Parr	1,484.53	—	2,195	10,014	12,209	6,481	5,728	1	130

Table 7.

The age and sex distribution of the population at the census taken in 1911.

Males		Females		Total	
Age	Sex	Age	Sex	Age	Sex
Under 1 year	1,344	Under 1 year	1,301	Under 1 year	2,645
1 and under 2	1,250	1 and under 2	1,269	1 and under 2	2,519
2	1,348	2	1,325	2	2,673
3	1,276	3	1,208	3	2,484
4	1,244	4	1,182	4	2,426
5	1,178	5	1,146	5	2,324
6	1,234	6	1,213	6	2,447
7	1,206	7	1,187	7	2,393
8	1,150	8	1,097	8	2,247
9	1,150	9	1,124	9	2,274
10	1,106	10	1,091	10	2,197
11	1,083	11	1,077	11	2,160
12	1,103	12	1,084	12	2,187
13	1,062	13	1,041	13	2,103
14	1,062	14	1,020	14	2,082
15	1,033	15	1,016	15	2,049
16	1,028	16	1,027	16	2,055
17	1,030	17	1,022	17	2,052
18	1,081	18	1,078	18	2,159
19	927	19	902	19	1,829
20	921	20	872	20	1,793
21	872	21	822	21	1,694
22	822	22	772	22	1,594
23	822	23	772	23	1,594
24	822	24	772	24	1,594
25	822	25	772	25	1,594
26	822	26	772	26	1,594
27	822	27	772	27	1,594
28	822	28	772	28	1,594
29	822	29	772	29	1,594
30	822	30	772	30	1,594
31	822	31	772	31	1,594
32	822	32	772	32	1,594
33	822	33	772	33	1,594
34	822	34	772	34	1,594
35	822	35	772	35	1,594
36	822	36	772	36	1,594
37	822	37	772	37	1,594
38	822	38	772	38	1,594
39	822	39	772	39	1,594
40	822	40	772	40	1,594
41	822	41	772	41	1,594
42	822	42	772	42	1,594
43	822	43	772	43	1,594
44	822	44	772	44	1,594
45	822	45	772	45	1,594
46	822	46	772	46	1,594
47	822	47	772	47	1,594
48	822	48	772	48	1,594
49	822	49	772	49	1,594
50	822	50	772	50	1,594
51	822	51	772	51	1,594
52	822	52	772	52	1,594
53	822	53	772	53	1,594
54	822	54	772	54	1,594
55	822	55	772	55	1,594
56	822	56	772	56	1,594
57	822	57	772	57	1,594
58	822	58	772	58	1,594
59	822	59	772	59	1,594
60	822	60	772	60	1,594
61	822	61	772	61	1,594
62	822	62	772	62	1,594
63	822	63	772	63	1,594
64	822	64	772	64	1,594
65	822	65	772	65	1,594
66	822	66	772	66	1,594
67	822	67	772	67	1,594
68	822	68	772	68	1,594
69	822	69	772	69	1,594
70	822	70	772	70	1,594
71	822	71	772	71	1,594
72	822	72	772	72	1,594
73	822	73	772	73	1,594
74	822	74	772	74	1,594
75	822	75	772	75	1,594
76	822	76	772	76	1,594
77	822	77	772	77	1,594
78	822	78	772	78	1,594
79	822	79	772	79	1,594
80	822	80	772	80	1,594
81	822	81	772	81	1,594
82	822	82	772	82	1,594
83	822	83	772	83	1,594
84	822	84	772	84	1,594
85	822	85	772	85	1,594
86	822	86	772	86	1,594
87	822	87	772	87	1,594
88	822	88	772	88	1,594
89	822	89	772	89	1,594
90	822	90	772	90	1,594
91	822	91	772	91	1,594
92	822	92	772	92	1,594
93	822	93	772	93	1,594
94	822	94	772	94	1,594
95	822	95	772	95	1,594
96	822	96	772	96	1,594
97	822	97	772	97	1,594
98	822	98	772	98	1,594
99	822	99	772	99	1,594
100	822	100	772	100	1,594
101	822	101	772	101	1,594
102	822	102	772	102	1,594
103	822	103	772	103	1,594
104	822	104	772	104	1,594
105	822	105	772	105	1,594
106	822	106	772	106	1,594
107	822	107	772	107	1,594
108	822	108	772	108	1,594
109	822	109	772	109	1,594
110	822	110	772	110	1,594
111	822	111	772	111	1,594
112	822	112	772	112	1,594
113	822	113	772	113	1,594
114	822	114	772	114	1,594
115	822	115	772	115	1,594
116	822	116	772	116	1,594
117	822	117	772	117	1,594
118	822	118	772	118	1,594
119	822	119	772	119	1,594
120	822	120	772	120	1,594
121	822	121	772	121	1,594
122	822	122	772	122	1,594
123	822	123	772	123	1,594
124	822	124	772	124	1,594
125	822	125	772	125	1,594
126	822	126	772	126	1,594
127	822	127	772	127	1,594
128	822	128	772	128	1,594
129	822	129	772	129	1,594
130	822	130	772	130	1,594
131	822	131	772	131	1,594
132	822	132	772	132	1,594
133	822	133	772	133	1,594
134	822	134	772	134	1,594
135	822	135	772	135	1,594
136	822	136	772	136	1,594
137	822	137	772	137	1,594
138	822	138	772	138	1,594
139	822	139	772	139	1,594
140	822	140	772	140	1,594
141	822	141	772	141	1,594
142	822	142	772	142	1,594
143	822	143	772	143	1,594
144	822	144	772	144	1,594
145	822	145	772	145	1,594
146	822	146	772	146	1,594
147	822	147	772	147	1,594
148	822	148	772	148	1,594
149	822	149	772	149	1,594
150	822	150	772	150	1,594
151	822	151	772	151	1,594
152	822	152	772	152	1,594
153	822	153	772	153	1,594
154	822	154	772	154	1,594
155	822	155	772	155	1,594
156	822	156	772	156	1,594
157	822	157	772	157	1,594
158	822	158	772	158	1,594
159	822	159	772	159	1,594
160	822	160	772	160	1,594
161	822	161	772	161	1,594
162	822	162	772	162	1,594
163	822	163	772	163	1,594
164	822	164	772	164	1,594
165	822	165	772	165	1,594
166	822	166	772	166	1,594
167	822	167	772	167	1,594
168	822	168	772	168	1,594
169	822	169	772	169	1,594
170	822	170	772	170	1,594
171	822	171	772	171	1,594
172	822	172	772	172	1,594
173	822	173	772	173	1,594
174	822	174	772	174	1,594
175	822	175	772	175	1,594
176	822	176	772	176	1,594
177	822	177	772	177	1,594
178	822	178	772	178	1,594
179	822	179	772	179	1,594
180	822	180	772	180	1,594
181	822	181	772	181	1,594
182	822	182	772	182	1,594
183	822	183	772	183	1,594
184	822	184	772	184	1,594
185	822	185	772	185	1,594
186	822	186	772	186	1,594
187	822	187	772	187	1,594
188	822	188	772	188	1,594
189	822	189	772	189	1,594
190	822	190	772	190	1,594
191	822	191	772	191	1,594
192	822	192	772	192	1,594
193	822	193	772	193	1,594
194	822	194	772	194	1,594
195	822	195	772	195	1,594
196	822	196	772	196	1,594
197	822	197	772	197	1,594
198	822	198	772	198	1,594
199	822	199	772	199	1,594
200	822	200	772	200	1,594

Table 7.

The age and sex distribution of the population at the census taken in 1911.

				Males	Females					Males.	Females
ALL AGES ...				50,309	46,242						
Under 1 year	...			1,344	1,301	Under 5 years	...			6,462	6,285
1 and under 2	...			1,250	1,269	5 and under 10	...			5,918	5,767
2	„	3	...	1,348	1,325	10	„	15	...	5,419	5,332
3	„	4	...	1,276	1,208	15	„	20	...	5,165	4,475
4	„	5	...	1,244	1,182	20	„	25	...	4,755	4,021
5	„	6	...	1,178	1,146	25	„	30	...	4,271	3,773
6	„	7	...	1,234	1,213	30	„	35	...	4,001	3,440
7	„	8	...	1,206	1,187	35	„	40	...	3,635	3,080
8	„	9	...	1,150	1,097	40	„	45	...	2,812	2,487
9	„	10	...	1,150	1,124	45	„	50	...	2,424	2,154
10	„	11	...	1,106	1,091	50	„	55	...	1,917	1,690
11	„	12	...	1,083	1,077	55	„	60	...	1,411	1,345
12	„	13	...	1,103	1,084	60	„	65	...	910	953
13	„	14	...	1,062	1,041	65	„	70	...	652	651
14	„	15	...	1,065	1,039	70	„	75	...	349	478
15	„	16	...	1,033	946	75	„	80	...	141	231
16	„	17	...	1,058	887	80	„	85	...	51	64
17	„	18	...	1,036	862	85	„	90	...	12	14
18	„	19	...	1,081	878	90	„	95	...	4	2
19	„	20	...	957	902	95	„	100	...	—	—
20	„	21	...	951	835	100 years and upwards	...			—	—

• 0100T

Table 10

1801		1801		1801	
1801	1801	1801	1801	1801	1801

11 01 57

Table 9.

The number of empty houses in the borough in Dec., 1915.

WARD.	Premises vacant.	Number closed as unfit for habitation.	Number of shops vacant.	Number of large houses vacant.	Number of houses for working classes vacant.	Number of houses for the working classes in course of erection.
North Eccleston...	13	1	5	2	5	0
South Eccleston...	22	12	0	7	3	9
Central	64	36	23	0	5	0
North Windle.....	7	0	2	5	0	1
South Windle.....	12	0	12	0	0	0
Hardshaw	17	0	15	1	1	4
East Sutton	10	2	4	0	4	2
West Sutton	17	2	4	2	9	7
Parr.....	26	9	9	0	10	12

Table 10.

Number of persons per house according to census returns.

Average number of persons per inhabited building.		Average number of persons per family.		
1901	1911	1901	1911	
		All dwellings.	All dwellings.	Ordinary dwelling houses.
5·60	5·49	5·48	5·41	5·31

Table 11.

The number of unmarried, married, and widowed persons per thousand of each sex, aged 20 years and upwards, according to census returns.

MALES.			FEMALES.		
Unmarried.	Married.	Widowed.	Unmarried.	Married.	Widowed.
350	591	59	229	667	104

Table 12.

Classification of buildings according to census returns.

1901		1911.									
		Total buildings used as Dwellings.	Ordinary dwelling houses.	Blocks of Flats.	Shops.	Hotels, Inns, and Public Houses.	Offices, Ware- houses, Work- shops & Factories.	Institutions.	Others.	Vessels, Sheds, Vagrants, &c.	Separate Flats (included in Col 5)
Number Inhabited..	15,061	17,585	16,410	1	954	185	1	28	6	—	1
Separate Occupiers..	15,390	17,833	16,652	1	957	186	1	28	6	2	1
Population	84,410	96,551	88,398	4	4,897	1,201	7	2,003	33	8	4
Uninhabited	815	392	338	—	51	1	1	1	—	—	—
Being built.....	123	57	56	—	1	—	—	—	—	—	—

BUILDINGS NOT USED AS DWELLINGS.

Places of Worship.	Government and Municipal Buildings.	Shops.	Offices.	Warehouses, Workshops, and Factories.	Theatres, and other places of Amusements.
56	13	497	98	163	3

Table 13.

The number of persons per tenement as shown by census figures.

	1901	1911
Total Population	84,410	96,551
Total Families or Separate Occupiers, " Private "		
or Other	15,390	17,833
Population in " Private Families "	—	94,320
Number of Private Families	—	17,772
Tenements with more than two occupants per room :—		
Number, 1832. Population, all ages		16,018
Do. under 10 years of age		5,694
Percentage of Population in " Private Families " living		
more than two in a room		17·0

TABLE 13-Continued

TABLE 13—Continued.

No. of Rooms per Tenement.	No. of child- ren und'r 10yrs of age	Number of persons in private families (or tenements).															Total number of private families (or Ten- ements)	I ls
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15 & up		
		Number of private families (or tenements)																
1	0	26	17	6	2	—	—	—	—	—	—	—	—	—	—	—	51	
	1	—	3	12	—	—	—	—	—	—	—	—	—	—	—	—	15	
	2	—	—	3	8	—	—	—	—	—	—	—	—	—	—	—	11	
	3	—	—	—	—	3	1	—	—	—	—	—	—	—	—	—	4	
	4	—	—	—	—	—	1	—	—	—	—	—	—	—	—	—	1	
	5	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
		26	20	21	10	3	2	—	—	—	—	—	—	—	—	—	82	
2	0	47	137	47	21	6	5	1	—	—	—	—	—	—	—	—	264	
	1	—	2	76	22	9	3	2	—	1	—	—	—	—	—	—	115	
	2	—	—	4	42	17	13	3	—	—	1	—	—	—	—	—	80	
	3	—	—	—	—	36	11	6	3	1	—	—	—	—	—	—	57	
	4	—	—	—	—	1	16	6	5	2	—	—	—	—	—	—	30	
	5	—	—	—	—	—	—	1	3	—	—	—	—	—	—	—	4	
	6	—	—	—	—	—	—	—	1	—	—	—	—	—	—	—	1	
		47	139	127	85	69	48	19	12	4	1	—	—	—	—	—	551	1
3	0	36	407	271	200	128	59	25	11	—	—	—	—	—	—	—	1,137	31
	1	—	4	403	153	125	76	45	16	8	—	—	1	—	—	—	831	31
	2	—	—	5	314	162	111	83	36	23	2	2	—	—	—	—	738	31
	3	—	—	—	3	204	126	110	71	33	12	1	1	—	—	—	561	31
	4	—	—	—	—	2	110	90	53	47	18	6	1	—	—	—	327	21
	5	—	—	—	—	—	—	26	20	19	10	2	1	—	—	—	78	
	6	—	—	—	—	—	—	—	2	1	1	1	2	—	—	—	7	
	7	—	—	—	—	—	—	—	—	4	*1	—	1	—	—	—	2	
		36	411	679	670	621	482	379	209	131	44	12	7	—	—	—	3,681	171
4	0	57	586	530	443	299	182	91	39	12	4	—	—	—	—	—	2,243	81
	1	—	3	538	257	263	175	135	91	31	12	2	2	—	—	—	1,509	71
	2	—	—	5	405	275	210	187	113	57	33	7	6	1	—	—	1,299	71
	3	—	—	—	5	289	214	210	134	99	43	12	3	2	1	—	1,012	61
	4	—	—	—	—	5	151	111	146	106	60	26	11	2	1	—	619	41
	5	—	—	—	—	—	—	43	40	39	22	20	12	3	1	—	180	11
	6	—	—	—	—	—	—	—	6	4	7	5	3	2	1	—	28	
	7	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
		57	589	1,073	1,110	1,131	932	777	569	348	181	72	37	10	4	—	6890	361
Total																		
1-4	—	166	1,159	1,900	1,875	1,824	1,464	1,175	790	483	226	84	44	10	4	—	11,204	561
5	—	39	312	536	608	659	599	532	390	272	186	116	51	19	6	3	4,328	251
6	—	11	114	154	187	208	187	160	111	93	46	40	19	8	2	3	1,343	71
7	—	3	30	51	82	64	44	40	44	23	14	7	4	2	1	1	410	21
8	—	—	15	28	43	45	34	23	21	18	7	8	4	1	2	1	250	11
9	—	—	6	17	19	16	12	12	4	5	6	2	—	—	1	—	100	
10 and upwards	—	—	2	17	16	19	24	17	14	14	8	1	2	2	1	—	137	
Totals.	—	219	1,638	2,703	2,830	2,835	2,364	1,959	1,374	908	493	258	124	42	17	8	17,772	941

Tenements of five rooms and upwards, with more than two persons per room.

No. of rooms per tenement.	Number of persons per tenement	Number of children under 10 years of age in private families (or tenements)											Total number of private families (or tene- ments).	POPULATION.		
		0	1	2	3	4	5	6	7	8	9	10		All ages.	Under 10	
		Number of private families (or tenements).														
5	}	11	4	11	25	34	32	8	2	—	—	—	—	116	1276	343
		12	—	2	5	15	16	7	6	—	—	—	—	51	612	192
		13	—	—	1	—	10	5	2	1	—	—	—	19	247	86
		14	—	—	1	—	2	1	2	—	—	—	—	6	84	27
6	}	15	—	—	—	—	—	—	3	—	—	—	—	3	45	18
		13	—	—	3	1	1	3	—	—	—	—	—	8	104	28
		14	—	—	—	1	—	1	—	—	—	—	—	2	28	8
7	}	15	—	—	1	—	—	2	—	—	—	—	—	3	45	12
		15	—	—	—	—	—	—	—	—	—	—	—	1	15	1

*This family included eight children under ten years of age.

Table 14

Proportion of 1000 samples in number consisting of—

1	2	3	4	5	6	7	8	9	10	11	12
1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000
1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000

Table 15

Proportion of 1000 samples in number consisting of—

1	2	3	4	5	6	7	8	9	10
1000	1000	1000	1000	1000	1000	1000	1000	1000	1000
1000	1000	1000	1000	1000	1000	1000	1000	1000	1000

Table 16

Proportion of 1000 samples in number consisting of—

1	2	3	4	5	6	7	8	9	10
1000	1000	1000	1000	1000	1000	1000	1000	1000	1000
1000	1000	1000	1000	1000	1000	1000	1000	1000	1000

These tables are also taken from the census returns of 1911.

Table 14.

Proportion, per 1,000 families, of families consisting of—

1 person	2 persons	3 persons	4 persons	5 persons	6 persons	7 persons	8 persons	9 persons	10 persons	11 persons	12 persons or more.
12	92	152	159	160	133	110	77	51	28	15	11

Table 15.

Proportion, per 1,000 tenements, of tenements consisting of—

1 room	2 rooms	3 rooms	4 rooms	5 rooms	6 rooms	7 rooms	8 rooms	9 rooms	10 rooms or more
5	31	207	387	243	76	23	14	6	8

Table 16.

Average number of occupants per room in tenements, consisting of—

1 room	2 rooms	3 rooms	4 rooms	5 rooms	6 rooms	7 rooms	8 rooms	9 rooms	1 to 9 rooms
2.39	1.77	1.61	1.32	1.16	0.96	0.80	0.73	0.61	1.24

These tables are also taken from the census returns of 1911.

Table 17.
Returns of the Board of Trade Labour Exchange

employment applications for making such applications	Number of applications, individual	Number of applications, miscellaneous	Number of applications, miscellaneous	Number of applications, miscellaneous
1,052	1,250	2,403	185	100
1,301	881	217	338	63
38	48	48	15	—
603	408	160	112	2
4,872	2,500	2,123	1,216	172

Table 18.

The number of houses with the various types of sanitary conveniences existing in the borough

Year	Water closet	W.C. and bath	Price	Total
1905	13,100	2,701	1,503	16,303
1911	12,312	1,002	2,823	16,137
1913	10,493	2,003	3,212	15,708
1915	9,302	2,734	4,013	16,049
1917	7,023	6,803	1,323	15,149
1919	7,041	7,023	1,012	15,076
1920	6,718	7,071	4,702	18,491
1921	8,503	7,120	4,907	20,530
1922	8,108	7,100	2,124	17,332

Table 19.

The number of conversions to the water carriage system completed each year since 1904

Year	Price	Top and bath	Total
1904	60	67	127
1905	60	61	121
1906	17	12	29
1907	237	122	359
1908	243	21	264
1909	108	26	134
1910	170	23	193
1911	270	123	393
1912	301	601	902
1913	460	646	1,106
1914	601	978	1,579
1915	200	280	480

Table 17.
Returns of the Board of Trade Labour Exchange.

	Number of applications for employment.	Number of individuals making such application.	Number of vacancies notified.	Number of vacancies filled.	Number of applicants placed in other districts
Men	1,932	1,230	2,403	785	109
Women ...	1,301	884	517	328	63
Boys	38	38	43	15	—
Girls	602	408	160	118	3
Total ...	3,873	2,560	3,123	1,246	175

Table 18.
The number of houses with the various types of sanitary conveniences
existing in the borough.

Year.	Water closet.	Tub and pail closet.	Privy midden.	Total.
1907 ...	6,106	7,150	5,154	18,409
1908 ...	6,503	7,120	4,907	18,530
1909 ...	6,718	7,071	4,795	18,584
1910 ...	7,041	7,028	4,616	18,685
1911 ...	7,626	6,863	4,338	18,827
1912 ...	9,205	5,734	4,019	18,958
1913 ...	10,493	5,058	3,542	19,093
1914 ...	12,316	4,058	2,829	19,203
1915 ...	13,100	3,704	1,500	19,282

Table 19.
The number of conversions to the water carriage system
completed each year since 1904.

	Privies.	Tub and pail closets.	Total.
1904	69	67	136
1905	80	64	144
1906	47	19	66
1907	237	125	362
1908	243	24	267
1909	106	38	144
1910	179	33	212
1911	270	129	399
1912	301	691	992
1913	460	646	1,106
1914	691	976	1,658
1915	300	380	680

Table 20.

Number of notices served.

	1905	1906	1907	1908	1909	1910	1911	1912	1913	1914	1915
To clean choked drains and w.c.'s	387	477	459	502	358	424	313	225	337	320	343
,, repair or relay defective drains	169	161	109	112	102	91	58	87	107	62	7
,, drain dwelling-houses	10	0	0	0	3	2	6	40	10	3	
,, disconnect and ventilate drains	137	155	140	60	62	24	5	10	3	1	2
,, disconnect downspouts	32	26	24	35	29	10	5	8	10	0	
,, repair or lengthen w.p. to slopstones ..	64	47	59	139	86	54	33	42	48	113	5
,, provide w.p. to slopstones	43	23	16	33	25	29	60	20	29	11	6
,, provide slopstones	21	41	34	44	32	53	55	27	29	10	1
,, repair w.c.'s, baths, basins, lavatories and cisterns	70	47	76	123	92	132	171	88	121	258	26
,, repair roofs of dwelling-houses	119	107	98	154	119	257	161	126	209	159	20
,, cleanse backyards, privies, & passages ..	50	36	41	76	74	19	16	11	10	5	
,, cleanse and whitewash filthy dwellings..	33	62	31	42	24	36	19	30	23	30	
,, provide doors to privies, pail closets, and ashpits	476	228	393	438	488	330	340	211	182	103	10
,, repair or re-hang doors to pail closets, ashpits and privies	289	105	202	321	373	405	328	205	322	143	
,, repair privies and ashpits	129	85	109	91	138	221	16	33	56	52	
,, repair eaves and downspouts	121	133	137	167	173	232	195	174	103	169	1
,, provide eaves and downspouts	115	59	95	90	78	141	119	138	79	85	
,, repair pavement, etc., in backyards ..	213	165	211	398	318	323	6	113	174	214	2
,, re-hang windows	204	36	81	8	7	9	4	5	29	82	
,, repair pavement and floors in dwelling- houses	59	76	75	100	65	179	145	179	139	219	11
,, remove fowls, pigeons, etc., from near dwellings	9	9	8	19	3	9	9	9	12	27	
,, remove pigs	23	13	10	15	10	15	14	14	10	18	
,, remove rubbish	24	20	18	46	52	7	8	6	6	11	
,, remove manure	17	11	12	20	10	14	7	3	17	12	
,, reconstruct middensteads	4	23	8	14	9	1	2	4	8	2	
,, clean foul ditches and cesspools	28	22	17	6	39	11	4	12	14	4	
,, provide or repair ashboxes	536	264	527	532	328	54	17	42	78	27	
,, remove nuisance due to overcrowding ..	20	29	12	30	11	36	36	24	20	34	
,, replaster walls or ceilings of dwellings ..	79	86	62	173	107	288	209	248	164	274	2
,, prevent dampness in dwellings	25	26	22	41	25	74	48	21	72	87	
,, remove sheds, etc., from backyards ..	10	9	8	5	3	7	8	4	8	4	
,, remedy defects in bakehouses	24	23	25	35	31	17	7	5	2	7	
,, remedy defects in workshops	15	10	16	39	20	22	9	12	42	22	
,, remedy defects in cowsheds & dairies ..	21	10	24	1	2	15	10	4	7	4	
,, provide water supply	11	0	0	0	0	31	1	5	33	1	
,, remedy miscellaneous nuisances	173	153	170	257	205	285	297	187	144	206	
,, convert to water carriage	102	118	381	264	169	322	764	1,128	2,446	1,882	
Totals	3,862	2,895	3,508	4,430	3,670	4,209	3,505	3,500	5,093	4,451	3,3

Table 21

Percentage of patients with clinical signs of disease

100	100	100	100	100	100
95	95	95	95	95	95
90	90	90	90	90	90
85	85	85	85	85	85
80	80	80	80	80	80
75	75	75	75	75	75
70	70	70	70	70	70
65	65	65	65	65	65
60	60	60	60	60	60
55	55	55	55	55	55
50	50	50	50	50	50
45	45	45	45	45	45
40	40	40	40	40	40
35	35	35	35	35	35
30	30	30	30	30	30
25	25	25	25	25	25
20	20	20	20	20	20
15	15	15	15	15	15
10	10	10	10	10	10
5	5	5	5	5	5
0	0	0	0	0	0

Table 22

Percentage of patients with clinical signs of disease

Disease				Disease			
No. of patients	No. of patients	No. of patients	No. of patients	No. of patients	No. of patients	No. of patients	No. of patients
100	100	100	100	100	100	100	100
95	95	95	95	95	95	95	95
90	90	90	90	90	90	90	90
85	85	85	85	85	85	85	85
80	80	80	80	80	80	80	80
75	75	75	75	75	75	75	75
70	70	70	70	70	70	70	70
65	65	65	65	65	65	65	65
60	60	60	60	60	60	60	60
55	55	55	55	55	55	55	55
50	50	50	50	50	50	50	50
45	45	45	45	45	45	45	45
40	40	40	40	40	40	40	40
35	35	35	35	35	35	35	35
30	30	30	30	30	30	30	30
25	25	25	25	25	25	25	25
20	20	20	20	20	20	20	20
15	15	15	15	15	15	15	15
10	10	10	10	10	10	10	10
5	5	5	5	5	5	5	5
0	0	0	0	0	0	0	0

Percentage of patients with clinical signs of disease

Table 21.

Observations for nuisances from black smoke:
percentages of offences discovered.

1903	...	...	...	...	...	22·1
1904	...	...	...	...	...	16·9
1905	...	...	...	...	...	14·9
1906	...	...	...	...	...	11·7
1907	...	...	...	...	...	11·7
1908	...	...	...	...	...	8·0
1909	...	...	...	...	...	4·8
1910	...	...	...	...	...	8·2
1911	...	...	...	...	...	6·8
1912	...	...	...	...	...	2·5
1913	...	...	...	...	...	0·0
1914	...	...	...	...	...	0·0
1915	...	...	...	...	...	12·9

Table 22.

Number of animals slaughtered and amount of diseased meat destroyed.

ABATTOIR.					PRIVATE SLAUGHTER HOUSES.			
	Killed.	Diseased.		Weight in lbs.	Killed.	Diseased.		Weight in lbs.
		Tuber- culosis.	Other diseases.			Tuber- culosis.	Other diseases.	
Beasts	3,789	267	330	13,351	104	1	2	35
Calves	287	0	5	159	21	0	0	0
Sheep	2,420	0	4	240	685	0	0	0
Pigs	3,855	62	34	2,352	2,982	16	43	4,464

About 9,090 lbs. of fish, 84 lbs. game, and 840 lbs. of fruit were found to be unsound and were destroyed.

Table 23.

The results of analyses of milk samples

Per Cent	Under	FAT.										Total
		2.5	2.2	2.0	1.8	1.6	1.4	1.2	1.0	Over	Total	
2.1						1						
2.2												
2.3						1					1	
2.4											2	
2.5								2			7	
2.6				1	2			2			10	10
2.7					1						10	20
2.8			1			1	3	1	1		6	17
2.9			1		2	2	1	3			8	12
3.0						1					3	4
3.0 over		1	1	1	3	1	1	2			20	32
Total		1	2	2	3	3	5	13	3	2	47	150

Table 24.

Results of analyses of other foods

Food	Number of samples	Mean-Adul.	med. tested	Food	Number of samples	Mean-Adul.	med. tested
Cocoa	...	0	0	Total	...	250	11
Coffee	...	7	0	Other articles	...	24	0
Tea	...	1	0	Drugs	...	0	0
Flour	...	1	0	Spirits	...	4	0
Beans	...	0	0	Beer	...	3	0
Pasta	...	1	0	Wine	...	0	0
Macaroni	...	13	0	Pepper	...	6	1
Onions	...	6	0	Confectionery & gum	...	0	0
Butter	...	24	1	Mustard	...	3	0
Milk	...	130	3	Sugar	...	2	0

Table 23.

The results of analyses of milk samples.

Per Cent.		FAT.									Total.	
		Under 2·7	2·8	2·9	3·0	3·1	3·2	3·3	3·4	3·5		Over 3·5
NON-FATTY SOLIDS.	Under 8·1					1						1
	8·2											
	8·3					1					1	2
	8·4										2	2
	8·5							2			7	9
	8·6			1	2			2	1		10	16
	8·7				1				2	1	19	23
	8·8		1		1	3	3	1	1	1	6	17
	8·9		1		2	2	1	3			9	18
	9·0					1					3	4
	Over 9·0	1	1	1	3	1	1	5	5		20	38
Total...		1	3	2	9	9	5	13	9	2	77	130

Table 24.

Results of analyses of other foods.

			Number of samples					Number of samples	
			Exam- ined.	Adul- terated				Exam- ined.	Adul- terated
Milk...	...	...	130	9	Sugar	..	...	3	0
Butter	...	...	24	1	Mustard	...	...	3	0
Cheese	...	...	6	0	Confectionery & Jam			0	0
Margarine	...	...	13	0	Pepper	...	...	6	1
Lard	..	...	4	0	Wine	...	...	0	0
Bread	...	...	0	0	Beer	...	..	3	0
Flour	1	0	Spirits	4	0
Tea	1	0	Drugs	0	0
Coffee	7	0	Other articles	24	0
Cocoa	0	0	TOTAL	229	11

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THE OTTOMAN EMPIRE

Table 26.

Property concerning which action was taken during 1914.

SITUATION.	NATURE OF ACTION.	CONDITION AT END OF 1915.	
6, } 8, } 10, front, 10, back 12, front, 12, back 14, } 16, } 18, Mount Street 20, } 22, } 24, } 26, } 28, } 30, } 32, }	Closing Order under St. Helens Improvement Act, 1869	Occupied—defects existing.	Reported to Committee 26th November, 1913.
9, } 11, } 13, } 15, Liverpool Street 17, } 21, } 23, } 25, }		Unoccupied—defects existing.	
3, } 5, } 12, } 14, } 16, Liverpool Street 18, } 20, } 22, }		Occupied—defects existing.	
2, Anne Street	Closing Order under St. Helens Improvement Act, 1869.	Unoccupied—defects existing.	Reported to Committee 24th December, 1913.
24, } 26, } 28, } 12, Crook Street 14, }	Closing Order under St. Helens Improvement Act, 1869.	Occupied—defects existing.	Reported to Committee 26th February, 1914.
1, } 2, } 3, } 4, }	Closing Order under St. Helens Improvement Act, 1869.	Occupied—defects existing.	Reported to Committee 26th February, 1914.
1, } 3, } 4, } 5, } 6, } 7, } 8, }	Closing Order under Housing, Town Planning etc., Act, 1909.	Occupied—defects existing.	Reported to Committee 26th February, 1914.
9, } 10, } 11, } 12, } 13, } 14, } 16, }	Closing Order under the Housing, Town Planning etc., Act., 1909.	Unoccupied—defects existing.	Reported to Committee 26th February, 1914.
9, } 11, }	Closing Order under the Housing, Town Planning, etc., Act, 1909.	Occupied—defects existing.	Reported to Committee 26th February, 1914.
174, Westfield Street	Demolition Order under St. Helens Corporation Act, 1911.	Unoccupied—defects existing.	
8, } 10, }	Closing Order under St. Helens Improvement Act, 1869.	Occupied—defects existing.	Reported to Committee 25th March, 1914.
1, } 2, } 3, } 4, } 5, }		Occupied—defects existing.	
8, front } 8, back } 1, } 2, } 3, } 4, }		Unoccupied—defects existing.	
1, } 2, } 3, } 4, }	Closing Order under St. Helens Improvement Act, 1869.	Occupied—defects existing.	Reported to Committee 22nd April, 1914.
138, } 140, }	Closing Order under the Housing, Town Planning, etc., Act, 1909.	Occupied—defects existing	Reported to Committee 22nd April, 1914.
142, } 144, }	Closing Order under the St. Helens Improvement Act, 1869.	Occupied—defects existing	Reported to Committee 22nd April, 1914.
1, } 2, } 46, The Delves	Closing Order under the Housing, Town Planning, etc., Act, 1909.	Occupied—defects existing.	Reported to Committee 22nd April, 1914.
12, } 13, } 14, }	Demolition Order under the St. Helens Corporation Act, 1911.	Occupied—defects existing.	Reported to Committee 27th May, 1914.
65, front } 65, back } Cottage behind 59, College Street	Closing Order under the Housing, Town Planning, etc., Act, 1909.	Occupied—defects existing.	Reported to Committee 27th May, 1914.
	Closing Order under the Housing, Town Planning, etc., Act, 1909.	Unoccupied—defects existing	Reported to Committee, 27th May 1914.
		Occupied—defects existing.	

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Table 26—Continued.

SITUATION.	NATURE OF ACTION.	CONDITION AT END OF 1915.	
67, } 69, } 77, } College Street 79, } 81, } 83, }	Closing Order under the Housing, Town Planning, etc., Act, 1909.	Occupied—defects existing.	Reported to Committee 27th May, 1914.
5, } 7, } 9, } Crab Street 11, } 13, } 15, }	Closing Order under the Housing, Town Planning, etc., Act, 1909.	Occupied—defects existing.	Reported to Committee 27th May, 1914.
1 and 2, 1 Court, Crab Street	Closing Order under the Housing, Town Planning, etc., Act, 1909.	Occupied—defects existing.	Reported to Committee 27th May, 1914.
1, } 2, } 3, } 6, } 7, } 8, } 2 Court, Crab Street 9, } 10, } 11, } 15, } 16, }	Closing Order under the Housing, Town Planning, etc., Act, 1909.	Occupied—defects existing.	Reported to Committee 27th May, 1914.
7, back, South Street	Closing Order under the Housing, Town Planning, etc., Act, 1909.	Occupied—defects existing.	Reported to Committee 27th May, 1914.
1, } 2, } 3, } 4, } 5, } 6, } Barbers Court 7, } 8, } 9, } 10, }	Closing Order under St. Helens Improvement Act, 1869.	Occupied—defects existing.	Reported to Committee 24th June, 1914. 22nd July, 1914. 23rd Sept., 1914.
41, } Barbers Street 43, }	Closing Order under St. Helens Improvement Act, 1869.	Occupied—defects existing.	Reported to Committee 24th June, 1914.
10, Vernon Street	Closing Order under St. Helens Improvement Act, 1869.	Occupied—defects existing.	Reported to Committee 24th June, 1914.
27, Parr Street	Demolition Order under St. Helens Corporation Act, 1911.	Unoccupied—defects remedied	Reported to Committee 8th October, 1913.
2, } 3, } 1, Court, College Street 4, }	Closing Order under the Housing, Town Planning, etc., Act, 1909.	Occupied—defects existing.	Reported to Committee 22nd July, 1914.
2, } 3, } Parr Court 4, }	Closing Order under the Housing, Town Planning, etc., Act, 1909.	Unoccupied—defects existing.	Reported to Committee 22nd July, 1914.
5, } 7, } Bridgewater Street	Closing Order under the Housing, Town Planning, etc., Act, 1909.	Unoccupied—defects existing.	Reported to Committee 22nd July, 1914.
28, } 30, } Phythian Street 32, }	Closing Order under the Housing, Town Planning, etc., Act, 1909.	Occupied—defects existing.	Reported to Committee 22nd July, 1914.
34, } 7, } 8, } Ravenhead Passage 9, }	Closing Order under the Housing, Town Planning, etc., Act, 1909.	Occupied—defects existing.	Reported to Committee 22nd July, 1914.
10, } 83, Back Chancery Lane	Closing Order under the Housing, Town Planning, etc., Act, 1909.	Unoccupied—defects existing.	Reported to Committee 21st October, 1913.
42, } Barber Street 44, }	Closing Order under the Housing, Town Planning, etc., Act, 1909.	Occupied—defects existing.	Reported to Committee 23rd Sept., 1914.
12, } Vernon Street 14, }	Closing Order under the Housing, Town Planning, etc., Act, 1909.	Occupied—defects existing.	Reported to Committee 23rd Sept., 1914.
8, front } 8, back } Phythian Street 10 front } 10, back }	Closing Order under the Housing, Town Planning, etc., Act, 1909.	Occupied—defects existing.	Reported to Committee 23rd Sept., 1914.
89, Peter Street	Closing Order under the Housing, Town Planning, etc., Act, 1909.	Unoccupied—defects existing.	Reported to Committee 23rd Sept., 1914.
12, } 14, } Duke Street 16, } 20, }	Closing Order under the Housing, Town Planning, etc., Act, 1909.	Occupied—defects existing.	Reported to Committee 23rd September, 1914.
1, Delph	Closing Order under the Housing, Town Planning, etc., Act, 1909.	Occupied—defects existing.	Reported to Committee 23rd Sept., 1914.
2, } Cottage, Washway Lane	Closing Order under the Housing, Town Planning, etc., Act, 1909.	Occupied—defects existing.	Reported to Committee 23rd Sept., 1914.

Date	Particulars	Debit	Credit	Balance
1890 Jan 1	To Balance	100.00		100.00
1890 Jan 10	By Cash	50.00		150.00
1890 Jan 20	To Cash	25.00		175.00
1890 Jan 30	By Cash	25.00		200.00

Table 27.

Defects discovered in Factories.

Insufficient means of escape in case of fire	...	...	...	1
Insufficient light to closets	...	...	...	1
Insufficient sanitary accommodation	...	...	...	3
No screens to sanitary conveniences	...	...	...	2
No inside fastenings to women's sanitary conveniences	...	...	...	3
No suitable partitioning of sanitary conveniences	...	...	...	3
No intervening space between closets and machine room	...	...	...	1
Dirty and insanitary condition of closets	...	...	...	4
Choked closet	...	...	...	1
Defective closet buildings	...	...	...	1
Limewashing of walls and ceilings required	...	...	...	1

Table 28.

Defects discovered in workshops.

Limewashing of walls and ceilings required	...	...	...	23
Insufficient ventilation and lighting	...	...	...	2
Removal of refuse from workshops required	...	...	...	2
Broken w.c. basin	...	...	...	1
No separate w.c. for sexes	...	...	...	1
No sanitary convenience	...	...	...	1
Drain opening into workshop	...	...	...	1
Defective tiling on workshop floors	...	...	...	1

Table 27

Defects discovered in factories

1	Insufficient means of escape in case of fire
1	Insufficient light for work
3	Insufficient sanitary accommodation
2	No means to control temperature
2	No inside lavatories to control sanitary conveniences
2	No suitable partitioning of sanitary conveniences
4	No intervening space between closets and machine room
3	Poor and unsanitary condition of closets
1	Closet closed
1	Defective closet buildings
1	Painting of walls and ceilings required

Table 28

Defects discovered in workshops

22	Painting of walls and ceilings required
2	Insufficient ventilation and lighting
2	Removal of refuse from workshops required
1	Broken glass in room
1	No separate door for refuse
1	No sanitary conveniences
1	Drain opening into workshop
1	Defective tiling on workshop floor

Table 29.
HOME OFFICE TABLES.

1.—Inspection.

Including inspections made by sanitary inspectors or inspectors of nuisances.

Premises.	Number of		
	Inspections.	Written Notices.	Prosecutions.
Factories (Including Factory Laundries.)	30	9	—
Workshops (Including Workshop Laundries.)	329	42	—
Workplaces	19	0	—
Total	378	51	—

Table 30.

2.—Defects found.

Particulars.	Number of Defects.			Number of Prosecutions.
	Found.	Remedied.	Referred to H.M. Inspector.	
<i>Nuisances under the Public Health Acts :—*</i>				
Want of cleanliness	6	4	—	—
Want of ventilation	—	—	—	—
Overcrowding	—	—	—	—
Want of drainage of floors	—	—	—	—
Other nuisances	3	3	—	—
Sanitary accommoda- tion.	{ insufficient	7	4	—
	{ unsuitable or defective ..	10	8	—
	{ not separate for sexes ..	2	1	—
<i>Offences under the Factory & Workshop Acts :</i>				
Illegal occupation of underground bake- houses (s. 101)	—	—	—	—
Breach of special sanitary requirements for bakehouse (ss. 97 to 100).	22	20	—	—
Other offences	1	1	—	—
Total	51	41	—	—

* Including those specified in sections 2, 3, 7 and 8 of the Factory and Workshop Act, 1901, as remediable under the Public Health Acts.

Table 31.

3.—Home work.

Nature of Work.	OUTWORKERS' LISTS, SECTION 107.						Notices served on Occupiers as to keeping or sending lists.
	Lists received from Employers.						
	Sending twice in the year.			Sending once in the year.			
	Lists	Outworkers		Lists	Outworkers		
1	2	Con-tractors.	Work-men	5	Con-tractors.	Work-men	8
Wearing Apparel—							
Making, etc.	20	—	32	1	1	6	—
Cleaning and washing	—	—	—	—	—	—	—
Household linen	—	—	—	—	—	—	—
Lace, lace curtains and nets	—	—	—	—	—	—	—
Curtains and furniture hangings	—	—	—	—	—	—	—
Furniture and upholstery..	—	—	—	—	—	—	—
Electro-plate	—	—	—	—	—	—	—
File making	—	—	—	—	—	—	—
Brass and brass articles ..	—	—	—	—	—	—	—
Fur pulling	—	—	—	—	—	—	—
Cables and chains	—	—	—	—	—	—	—
Anchors and grapnels ..	—	—	—	—	—	—	—
Cart gear	—	—	—	—	—	—	—
Locks, latches and keys..	—	—	—	—	—	—	—
Umbrellas, etc.	—	—	—	—	—	—	—
Artificial flowers	—	—	—	—	—	—	—
Nets, other than wire nets..	—	—	—	—	—	—	—
Tents	—	—	—	—	—	—	—
Sacks	—	—	—	—	—	—	—
Racquet and tennis balls	—	—	—	—	—	—	—
Paper, etc., boxes, paper bags	—	—	—	—	—	—	—
Brush making	—	—	—	—	—	—	—
Pea picking	—	—	—	—	—	—	—
Feather sorting	—	—	—	—	—	—	—
Carding, etc. of buttons etc	—	—	—	—	—	—	—
Stuffed toys	—	—	—	—	—	—	—
Basket making	—	—	—	—	—	—	—
Chocolates and sweetmeats	—	—	—	—	—	—	—
Cosaques, Christmas crackers, Christmas Stockings etc.	—	—	—	—	—	—	—
Textile weaving	—	—	—	—	—	—	—
TOTAL ..	20	—	32	1	1	6	—

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2-11014, 2-11015

Table 32.

4.—Registered workshops.

	Workshops on the Register (s. 131) at the end of the year.								Number.
	(1)								(2)
Important classes of workshops, such as workshop bakehouses may be enumerated here.	Dressmakers and mantle making	..	..	..	..	..	..	..	44
	Milliners .. .. .	..	..	..	..	..	..	..	21
	Tailors .. .. .	..	..	..	..	..	..	..	14
	Hosiery Knitters .. .. .	..	..	..	..	..	..	..	9
	Joiners, builders, cabinet-makers and plumbers, etc.	..	..	..	..	..	..	..	13
	Blacksmiths, wheelwrights, coach builders and masons	..	..	..	..	..	..	..	8
	Weighing machine repairers .. .. .	..	..	..	..	..	..	..	2
	Cloggers and boot repairers .. .. .	..	..	..	..	..	..	..	44
	Cycle makers .. .. .	..	..	..	..	..	..	..	2
	Cooper .. .. .	..	..	..	..	..	..	..	1
	Tripe Dresser .. .. .	..	..	..	..	..	..	..	2
	Herbal Brewer .. .. .	..	..	..	..	..	..	..	3
	Pearl Ash Manufacturer .. .. .	..	..	..	..	..	..	..	1
	Seltzogene, charge maker .. .. .	..	..	..	..	..	..	..	1
	Tea wrapping .. .. .	..	..	..	..	..	..	..	1
	Drysalter .. .. .	..	..	..	..	..	..	..	1
	Leadlight maker .. .. .	..	..	..	..	..	..	..	2
	Cab washing .. .. .	..	..	..	..	..	..	..	2
	Saddler .. .. .	..	..	..	..	..	..	..	1
	Knackers Yard .. .. .	..	..	..	..	..	..	..	1
	Sundries .. .. .	..	..	..	..	..	..	..	13
	Ice Cream Makers .. .. .	..	..	..	..	..	..	..	3
Total number of Workshops on Register									189

Table 33.

5.—Other matters.

Class.	Number.
1	2
Matters notified to H.M. Inspector of Factories :—	
Failure to affix Abstract of the Factory and Workshop Acts (S. 133, 1901)	1
Action taken in matters referred by H.M. Inspectors as remediable under the Public Health Acts, but not under the Factory and Workshops Acts (S. 5, 1901) {	15
Notified by H.M. Inspector..	
Reports of Action taken sent to H.M. Inspector.	12
Other	5
Underground Bakehouses (S. 101) :—	
Certificates granted during the year	—
In use at the end of the year	1

Table 34.

Admissions, discharges, and deaths during 1915, Peasley Cross Isolation Hospital.

DISEASE.	In hospital Jan. 2nd, 1915.		Admitted.		Discharged.		Died.		In hospital Jan. 1st, 1916.	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
Tphoid fever ..	2	—	18	13	14	10	2	3	4	—
Scarlet fever....	21	21	216	294	192	256	7	5	38	54
Diphtheria	1	1	122	147	103	121	11	14	9	13
Peurperal fever .	—	2	—	11	—	9	—	3	—	1
Measles	1	—	55	34	47	25	9	9	—	—
Whooping cough	1	—	3	3	3	2	1	1	—	—
Other diseases ..	9	5	62	52	52	45	14	10	5	2
	35	29	476	554	421	468	44	45	56	70

Table 35.

Total and average number of days spent by patients in hospital.

DISEASE	Typhoid Fever	Scarlet Fever	Diph- theria	Puer- peral fever	Phthi- sis	Measles	Whoopg cough	Other diseases
Total days.	1,144	17,827	6,329	444	27,439	2,338	155	4,926
Average duration in days per patient treated	39.4	38.7	25.4	37	156.7	25.9	22.1	40.8

Table 36.

Percentage of cases of infectious diseases removed to hospital.

	1910.	1911.	1912.	1913.	1914.	1915.
Scarlet fever .	85.9	81.4	85.6	82.8	87.1	98.4
Diphtheria	69.4	74.8	69.6	70.9	88.3	93.0
Enteric fever .	87.8	94.0	93.0	100.0	92.5	100.0
Puerperal fever	100.0	18.1	50.0	50.0	64.7	100.0
Erysipelas	5.0	5.2	7.5	4.0	1.8	5.4
Phthisis	0.0	0.8	70.0	34.3	55.5	67.6
Ophthalmia	0.0	0.0	0.0	0.0	11.5	12.6

Table 34.

Admissions, discharges, and deaths during 1915, Rogers' Hospital.

Disease	In hospital Jan. 1st 1915		Discharged		Died		In hospital Jan. 1st 1916	
	M.	F.	M.	F.	M.	F.	M.	F.
Scarlet fever	2	—	11	10	2	—	1	—
Diphtheria	21	—	102	102	7	—	28	—
Erysipelas	1	—	102	102	11	—	0	—
Measles	—	—	—	—	—	—	—	—
Whooping cough	1	—	11	11	—	—	—	—
Other diseases	0	—	22	22	1	—	0	—
Total	25	—	247	247	44	—	30	—

Table 35.

Total and average number of days spent by patients in hospital.

Disease	Total days	Average number of days per patient	Total days	Average number of days per patient
Scarlet fever	1,141	30.1	1,141	30.1
Diphtheria	17,227	38.7	17,227	38.7
Erysipelas	1,722	25.4	1,722	25.4
Measles	—	—	—	—
Whooping cough	—	—	—	—
Other diseases	—	—	—	—
Total	19,889	37.1	19,889	37.1

Table 36.

Percentage of cases of various diseases returned to hospital.

Disease	1910	1911	1912	1913	1914	1915
Scarlet fever	28.9	21.4	27.8	23.8	27.1	22.1
Diphtheria	59.1	71.8	69.6	70.9	68.3	63.0
Erysipelas	27.2	34.0	33.0	100.0	32.3	100.0
Measles	100.0	18.1	20.0	20.0	24.7	100.0
Whooping cough	7.0	2.2	7.2	4.0	1.8	5.4
Other diseases	0.0	0.8	10.0	21.2	22.2	21.0
Total	0.0	0.0	0.0	0.0	11.3	12.0

Table 37.

Amount of clothing, etc., disinfected during 1915.

Hospital clothing and bedding	...	...	...	5,067
Blankets, sheets, and rugs	...	...	...	1,722
Pillows and cushions	...	...	...	2,832
Beds	...	...	...	944
Other articles of clothing	...	...	...	5,096
Library books	...	...	...	420
Other articles	...	...	...	3,765
Blankets and rugs for soldiers	...	...	...	6,020
Articles of clothing for soldiers	...	...	...	2,954
Total				28,820

Table 38.

Investigations carried out in the municipal laboratory.

Specimens.	Number received	Results.	
		Positive	Negative
Diphtheria—swab	1695	529	1166
Typhoid fever—blood	94	39	55
Tuberculosis—sputum	307	71	236
Ringworm—hair	4	1	3
Other specimens	79	...	...
Total	2179	640	1460

and the Death Rate of the Black Community.
 The Attack Rate is represented by the shaded columns

DATE	DEATHS	CASES	RATE PER 1,000 POPULATION
1880			
1881			
1882			
1883			
1884			
1885			
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1889			
1890			
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1910	1	1	1010
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Table 40.

Vaccination returns since 1897.

YEAR.	1 Births.	2 Vaccin- ated.	3 Insus- ceptible.	4 Dead.	5 Con- Obj'e't'r	6 Post- poned.	7 Removed	8 Un- accounted	Percentage not Vaccinated including Columns 5, 6, 7, 8
1897	*3,209	2,680	11	390	4	7	110	7	4·9
1898	*3,238	2,696	15	383	14	1	103	15	4·6
1899	*3,126	2,625	32	346	10	3	94	16	4·8
1900	*3,148	2,654	10	367	5	12	82	18	4·2
1901	3,157	2,639	4	391	11	29	59	24	4·4
1902	3,245	2,788	4	342	7	12	58	34	3·8
1903	3,391	2,977	8	325	2	6	62	11	2·6
1904	3,375	2,940	7	341	10	10	42	25	2·8
1905	3,259	2,923	3	270	6	10	29	18	2·1
1906	3,137	2,733	5	318	8	12	39	22	2·8
1907	3,185	2,810	9	257	24	19	49	17	3·7
1908	3,260	2,858	18	248	70	11	35	20	4·5
1909	3,103	2,720	8	241	81	9	33	11	4·7
1910	3,165	2,731	3	255	131	3	23	19	6·0
1911	3,229	2,750	9	277	148	5	26	14	6·5
1912	3,154	2,646	4	249	216	12	23	4	8·7
1913	3,190	2,499	6	296	339	14	27	9	13·0
1914	3,346	2,654	11	281	348	6	22	24	13·0

*The above Returns are for St. Helens Sub-District of the Prescot Union, which does not include quite the whole of the Borough.

Table 41.

Classification according to age of the cases of and deaths from diphtheria.

Ages.	Under 1 year	1—5	5—15	15—25	25—45	45—65	65 & over.
Cases	11	93	118	30	33	3	1
Deaths.....	3	18	10	0	1	0	0

Table 4

7044 4046 4071 4096 4121 4146 4171 4196 4221 4246 4271 4296 4321 4346 4371 4396 4421 4446 4471 4496 4521 4546 4571 4596 4621 4646 4671 4696 4721 4746 4771 4796 4821 4846 4871 4896 4921 4946 4971 4996 5021 5046 5071 5096 5121 5146 5171 5196 5221 5246 5271 5296 5321 5346 5371 5396 5421 5446 5471 5496 5521 5546 5571 5596 5621 5646 5671 5696 5721 5746 5771 5796 5821 5846 5871 5896 5921 5946 5971 5996 6021 6046 6071 6096 6121 6146 6171 6196 6221 6246 6271 6296 6321 6346 6371 6396 6421 6446 6471 6496 6521 6546 6571 6596 6621 6646 6671 6696 6721 6746 6771 6796 6821 6846 6871 6896 6921 6946 6971 6996 7021 7046 7071 7096 7121 7146 7171 7196 7221 7246 7271 7296 7321 7346 7371 7396 7421 7446 7471 7496 7521 7546 7571 7596 7621 7646 7671 7696 7721 7746 7771 7796 7821 7846 7871 7896 7921 7946 7971 7996 8021 8046 8071 8096 8121 8146 8171 8196 8221 8246 8271 8296 8321 8346 8371 8396 8421 8446 8471 8496 8521 8546 8571 8596 8621 8646 8671 8696 8721 8746 8771 8796 8821 8846 8871 8896 8921 8946 8971 8996 9021 9046 9071 9096 9121 9146 9171 9196 9221 9246 9271 9296 9321 9346 9371 9396 9421 9446 9471 9496 9521 9546 9571 9596 9621 9646 9671 9696 9721 9746 9771 9796 9821 9846 9871 9896 9921 9946 9971 9996 10021 10046 10071 10096 10121 10146 10171 10196 10221 10246 10271 10296 10321 10346 10371 10396 10421 10446 10471 10496 10521 10546 10571 10596 10621 10646 10671 10696 10721 10746 10771 10796 10821 10846 10871 10896 10921 10946 10971 10996 11021 11046 11071 11096 11121 11146 11171 11196 11221 11246 11271 11296 11321 11346 11371 11396 11421 11446 11471 11496 11521 11546 11571 11596 11621 11646 11671 11696 11721 11746 11771 11796 11821 11846 11871 11896 11921 11946 11971 11996 12021 12046 12071 12096 12121 12146 12171 12196 12221 12246 12271 12296 12321 12346 12371 12396 12421 12446 12471 12496 12521 12546 12571 12596 12621 12646 12671 12696 12721 12746 12771 12796 12821 12846 12871 12896 12921 12946 12971 12996 13021 13046 13071 13096 13121 13146 13171 13196 13221 13246 13271 13296 13321 13346 13371 13396 13421 13446 13471 13496 13521 13546 13571 13596 13621 13646 13671 13696 13721 13746 13771 13796 13821 13846 13871 13896 13921 13946 13971 13996 14021 14046 14071 14096 14121 14146 14171 14196 14221 14246 14271 14296 14321 14346 14371 14396 14421 14446 14471 14496 14521 14546 14571 14596 14621 14646 14671 14696 14721 14746 14771 14796 14821 14846 14871 14896 14921 14946 14971 14996 15021 15046 15071 15096 15121 15146 15171 15196 15221 15246 15271 15296 15321 15346 15371 15396 15421 15446 15471 15496 15521 15546 15571 15596 15621 15646 15671 15696 15721 15746 15771 15796 15821 15846 15871 15896 15921 15946 15971 15996 16021 16046 16071 16096 16121 16146 16171 16196 16221 16246 16271 16296 16321 16346 16371 16396 16421 16446 16471 16496 16521 16546 16571 16596 16621 16646 16671 16696 16721 16746 16771 16796 16821 16846 16871 16896 16921 16946 16971 16996 17021 17046 17071 17096 17121 17146 17171 17196 17221 17246 17271 17296 17321 17346 17371 17396 17421 17446 17471 17496 17521 17546 17571 17596 17621 17646 17671 17696 17721 17746 17771 17796 17821 17846 17871 17896 17921 17946 17971 17996 18021 18046 18071 18096 18121 18146 18171 18196 18221 18246 18271 18296 18321 18346 18371 18396 18421 18446 18471 18496 18521 18546 18571 18596 18621 18646 18671 18696 18721 18746 18771 18796 18821 18846 18871 18896 18921 18946 18971 18996 19021 19046 19071 19096 19121 19146 19171 19196 19221 19246 19271 19296 19321 19346 19371 19396 19421 19446 19471 19496 19521 19546 19571 19596 19621 19646 19671 19696 19721 19746 19771 19796 19821 19846 19871 19896 19921 19946 19971 19996 20021 20046 20071 20096 20121 20146 20171 20196 20221 20246 20271 20296 20321 20346 20371 20396 20421 20446 20471 20496 20521 20546 20571 20596 20621 20646 20671 20696 20721 20746 20771 20796 20821 20846 20871 20896 20921 20946 20971 20996 21021 21046 21071 21096 21121 21146 21171 21196 21221 21246 21271 21296 21321 21346 21371 21396 21421 21446 21471 21496 21521 21546 21571 21596 21621 21646 21671 21696 21721 21746 21771 21796 21821 21846 21871 21896 21921 21946 21971 21996 22021 22046 22

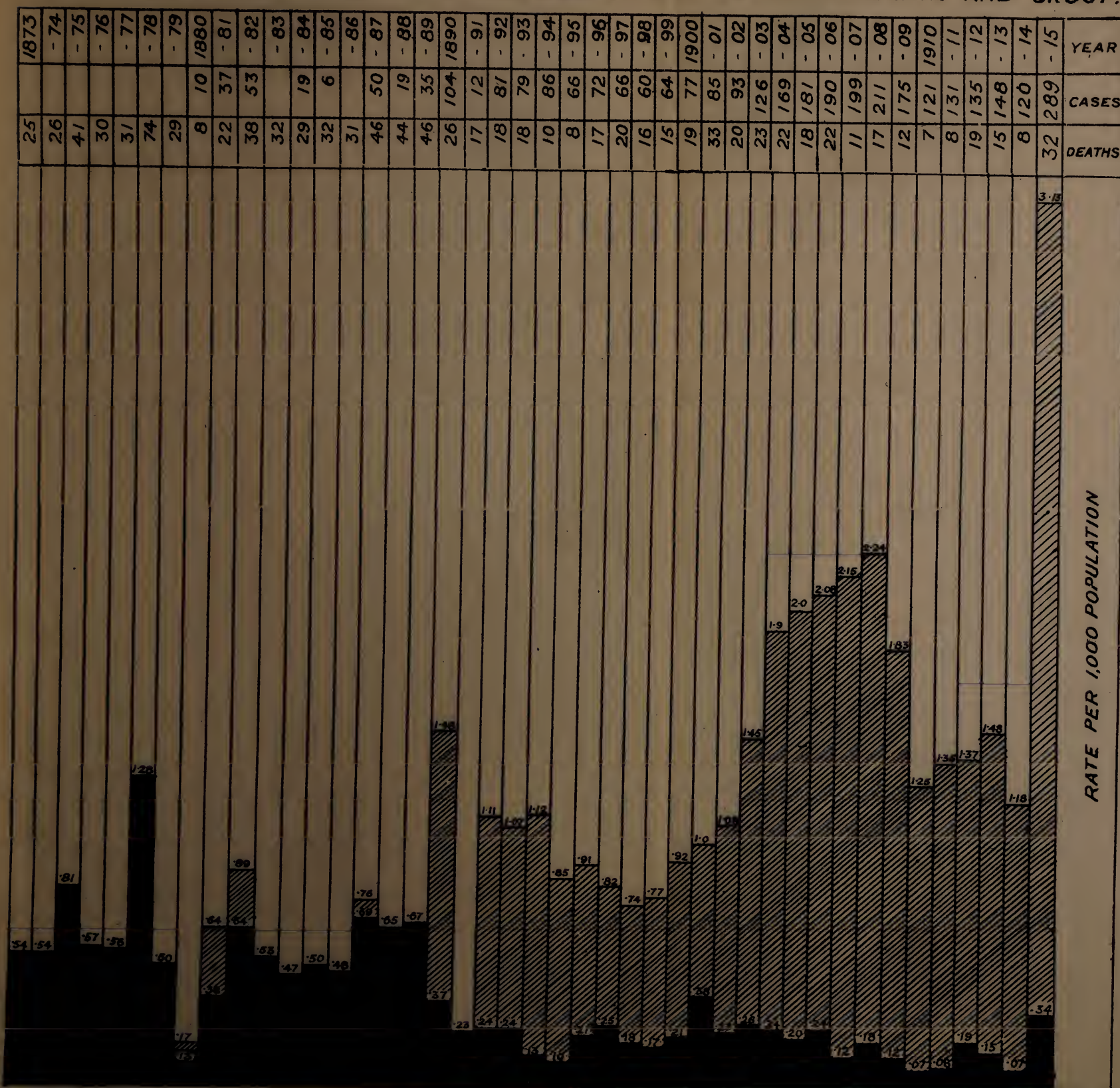
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Table 42.

DIAGRAM SHOWING ATTACK RATE AND DEATH RATE FROM DIPHTHERIA AND CROUP.



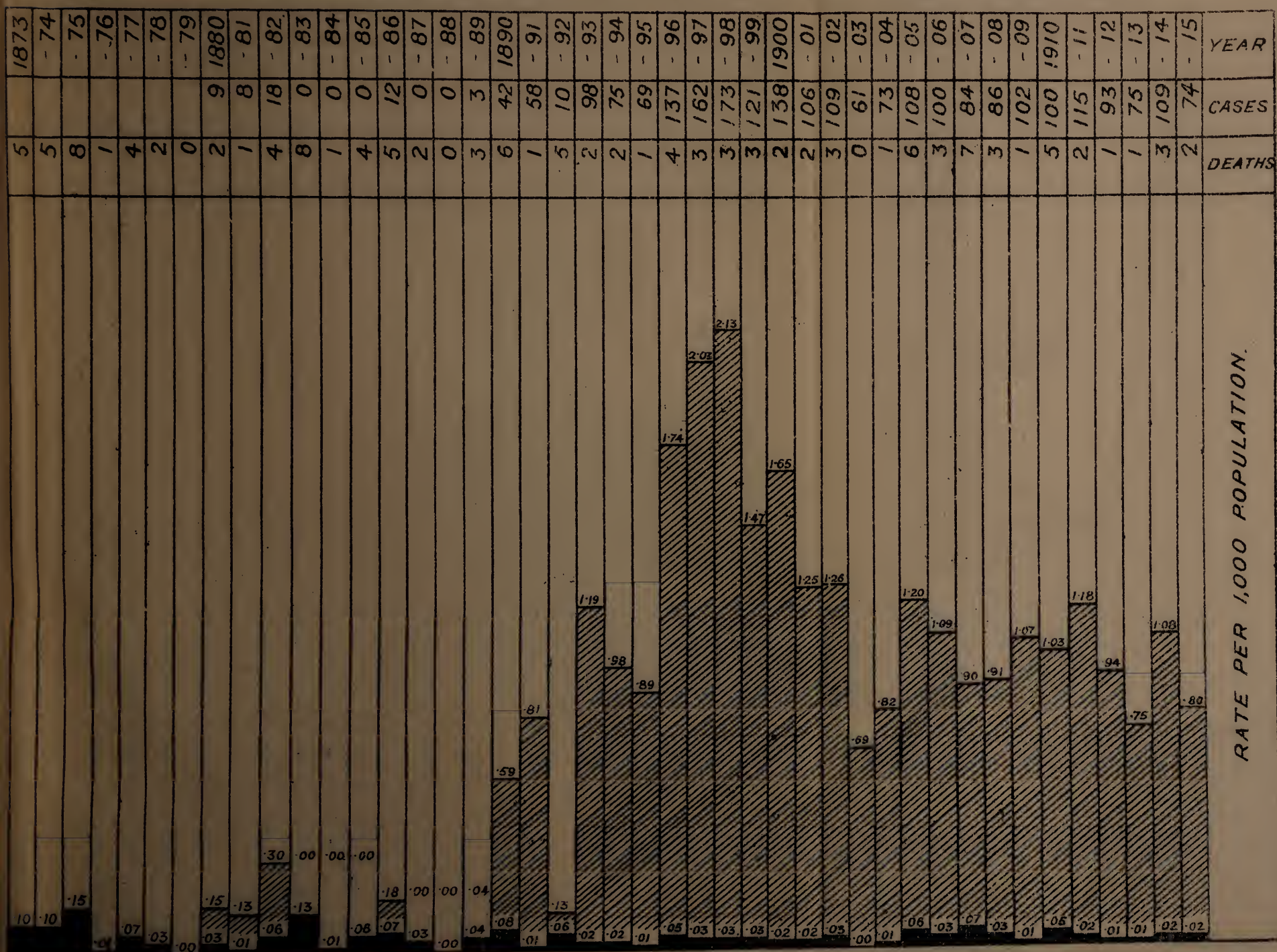
The Attack Rate is represented by the Shaded Columns:
and the Death Rate by the Black Columns.

AM SHOWING ATTACK RATE AND DEATH

17 -		13	
87 -		47	
87		85	
0861	01	8	
18 -	73	55	
58 -	23	83	
58 -		33	
48 -	21	85	
28 -	2	35	
38 -		13	
78 -	03	34	
88 -	21	44	
28 -	23	24	
0861	401	35	
12 -	51	71	
28 -	13	81	
28	27	81	
48 -	38	01	
28	33	8	

Table 43.

DIAGRAM SHOWING ATTACK RATE AND DEATH RATE FROM ERYSIPELAS.



The Attack Rate is represented by the Shaded Columns and the Death Rate by the Black Columns.

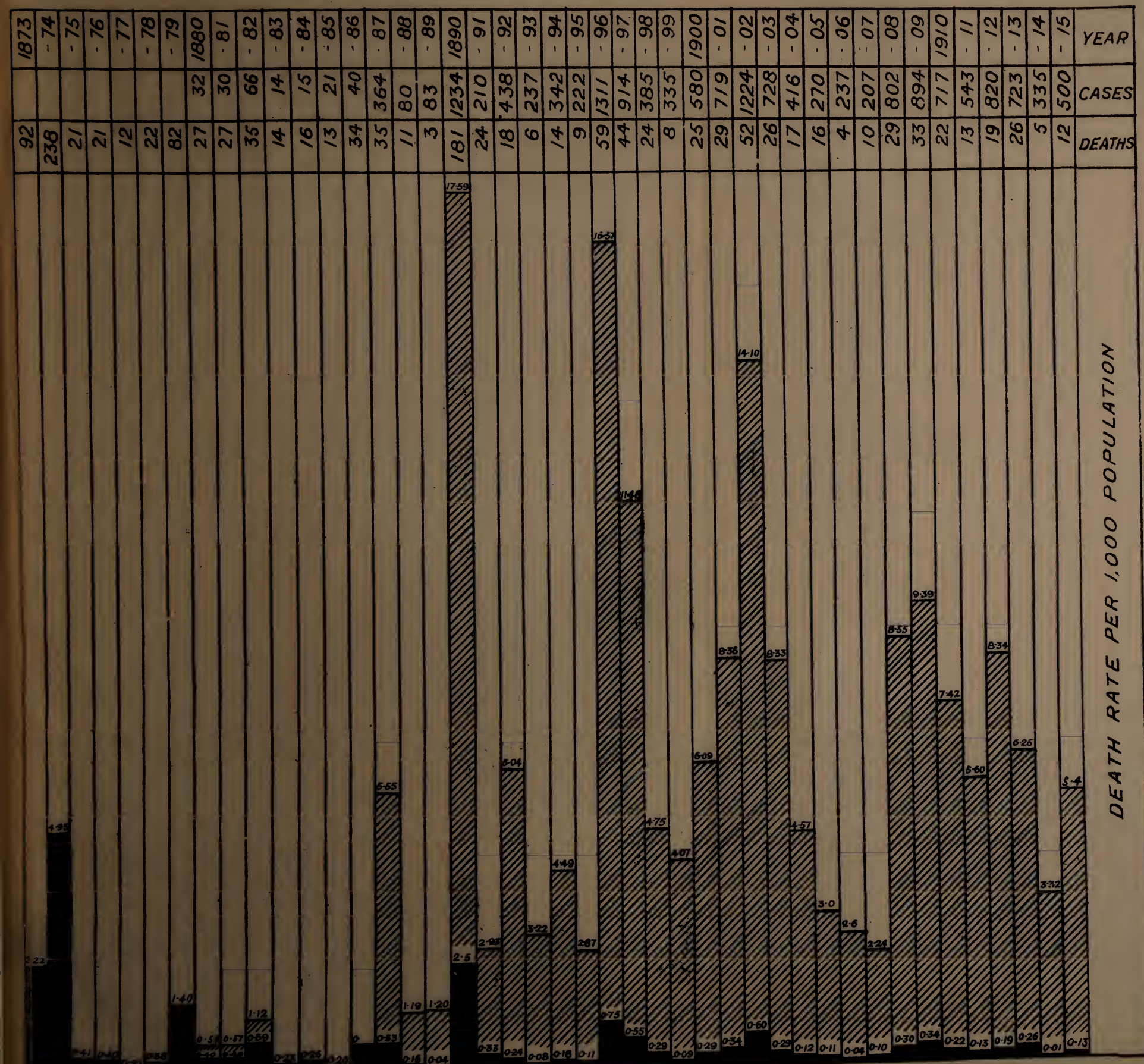
The Attack Rate is represented by
and the Death Rate by the Black

DIAGRAM SHOWING ATTACK RATE AND DE

1968

Table 44.

DIAGRAM SHOWING ATTACK RATE AND DEATH RATE FROM SCARLET FEVER.



The Attack Rate is represented by the Shaded Columns
and the Death Rate by the Black Columns.

and the Death Rate is represented by

The Attack Rate is represented by



Diagram showing Attack Rate and Death Rate

Table 43.

Classification according to use of the teeth in and teeth from teeth

Age	1 year	1-2	2-3	3-4	4-5	5-6	6-7	7-8
Teeth from teeth	0	2	1	0	0	0	0	0
Teeth from teeth	0	1	0	0	0	0	0	0

Table 46.

Classification according to use of the teeth in and teeth from teeth

Age	1 year	1-2	2-3	3-4	4-5	5-6	6-7	7-8
Teeth from teeth	28	41	37	0	1	0	0	0
Teeth from teeth	2.0	2.1	4.0	0.2	0.0	0.0	0.0	0.0

Table 47.

Classification according to use of the teeth from teeth and teeth

Age	1 year	1-2	2-3	3-4	4-5	5-6	6-7	7-8
Teeth from teeth	17	15	4	1	2	—	1	2

Table 45.

Classification according to age of the cases of and deaths from scarlet fever.

Ages.	Under 1 year.	1—5	5—15	15—25	25—45	45—65	65 & over.
Cases	10	153	305	25	8	0	0
Deaths	0	8	4	0	0	0	0

Table 46.

Classification according to age of deaths from measles.

Ages.	Under 1 year.	1—2	2—5	5—15	15—25	25 and over.
Deaths	23	61	35	6	1	0
Death-rate per 1,000 of the population at these ages	8.6	24.2	4.6	0.26	.05	—

Table 47.

Classification according to age of the deaths from diarrhoea and enteritis.

Ages.	Under 1 year	1-2	2-5	5-15	15-25	25-45	45-65	65 and upw'ds
Deaths.....	51	17	4	1	2	—	1	2

DEATH RATE FROM TYPHOID FEVER

YEAR	CASES	DEATH
1912	31	0
1913	31	4
1914	32	4
1915	34	8
1916	100	55
1917	47	10
1918	22	13
1919	20	15
1920	21	15
1921	22	18
1922	27	18
1923	18	25
1924	104	42
1925	152	18
1926	155	42
1927	130	30
1928	141	32
1929	122	40

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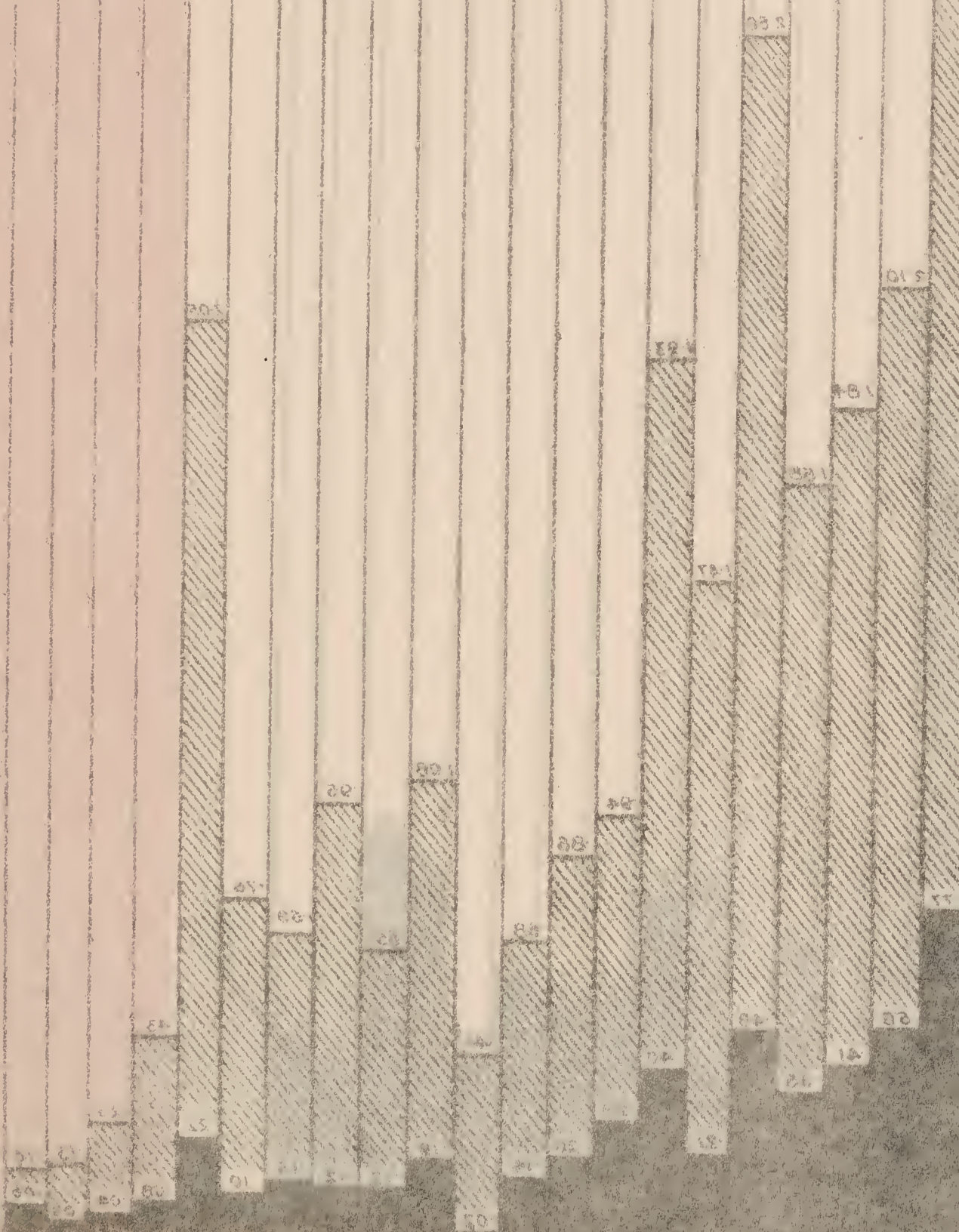
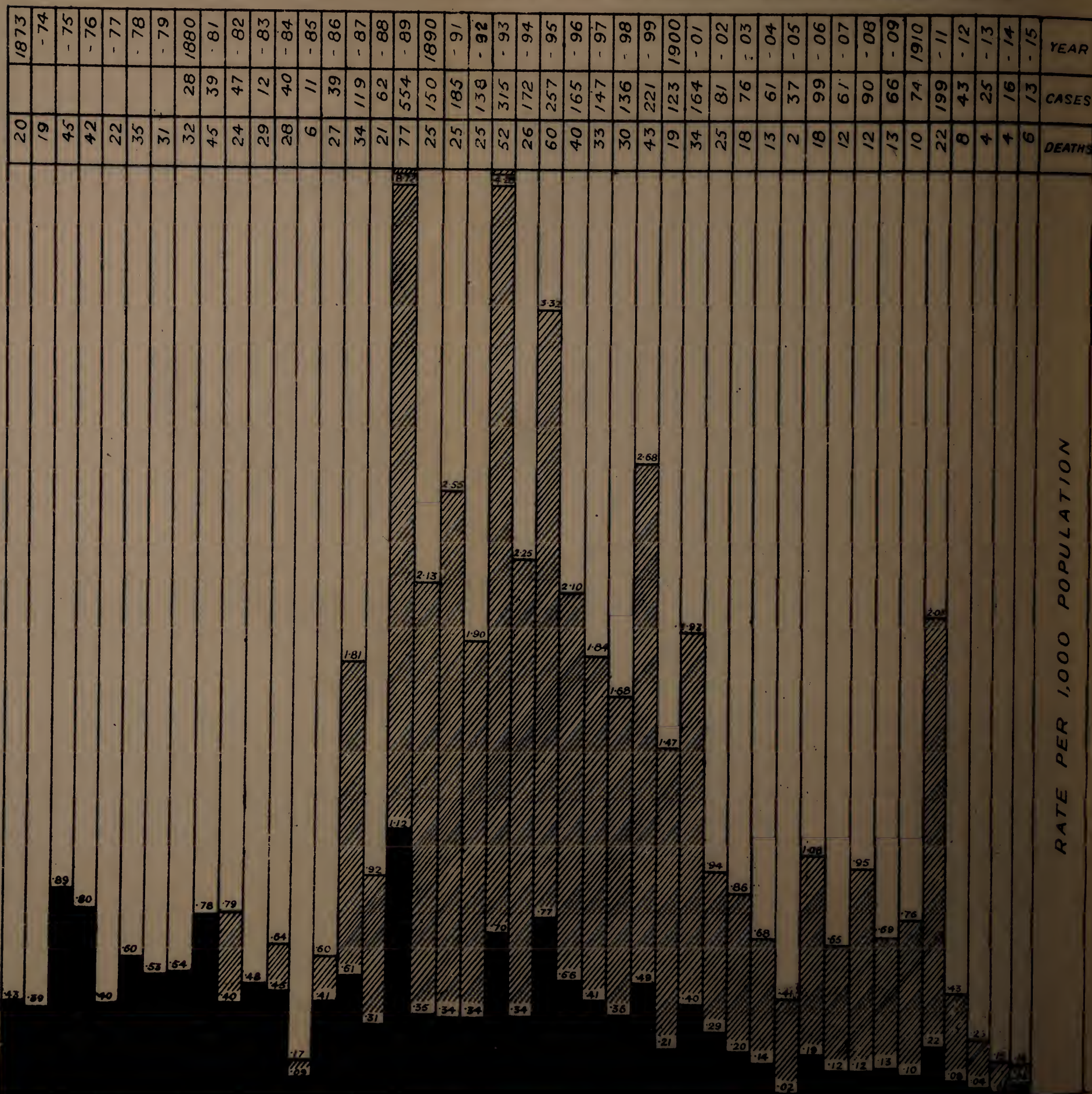


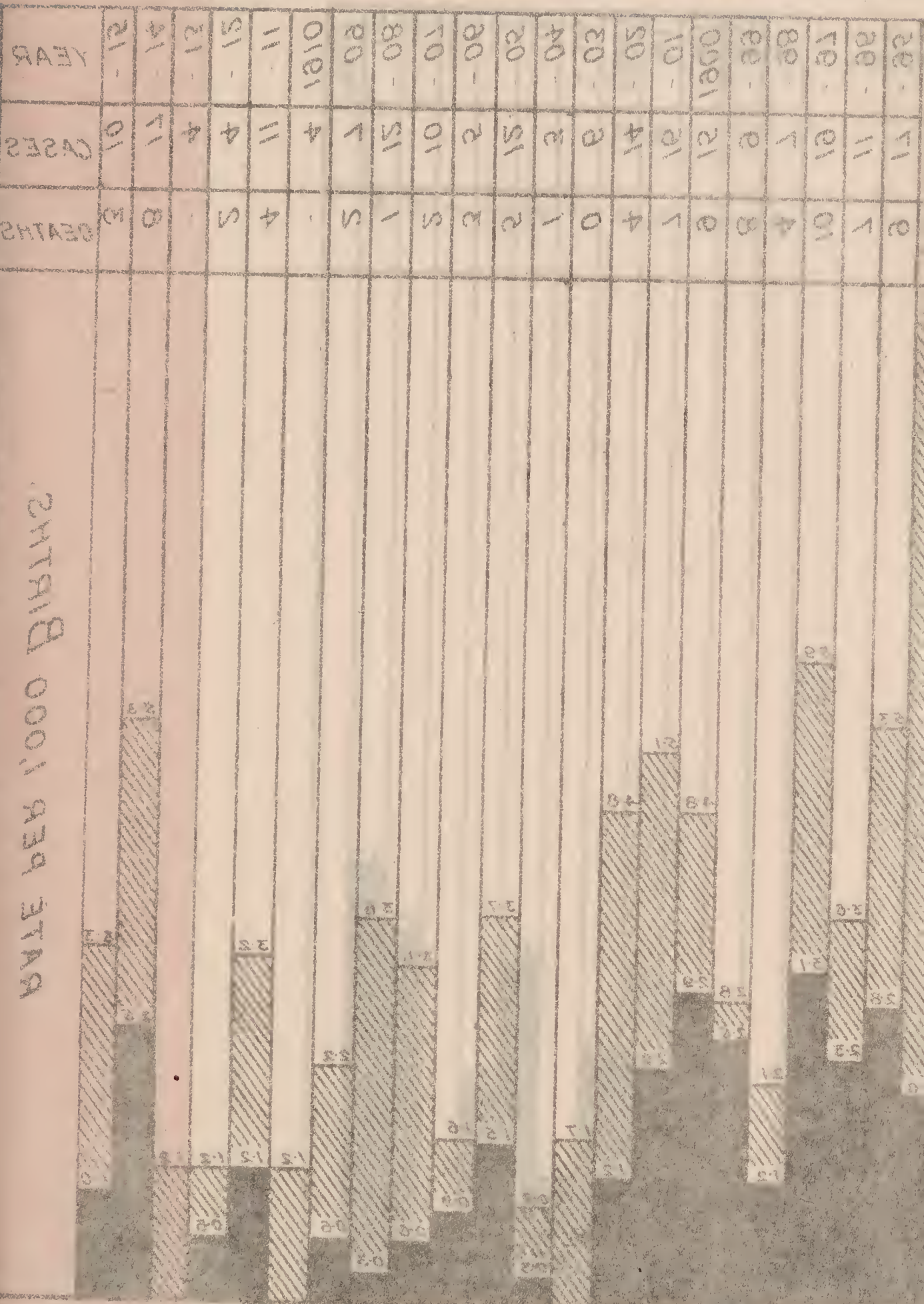
Table 48.

DIAGRAM SHOWING ATTACK RATE AND DEATH RATE FROM TYPHOID FEVER



The Attack Rate is represented by the Shaded Columns
and the Death Rate by the Black Columns

DEATH RATE FROM PUERPERAL FEVER

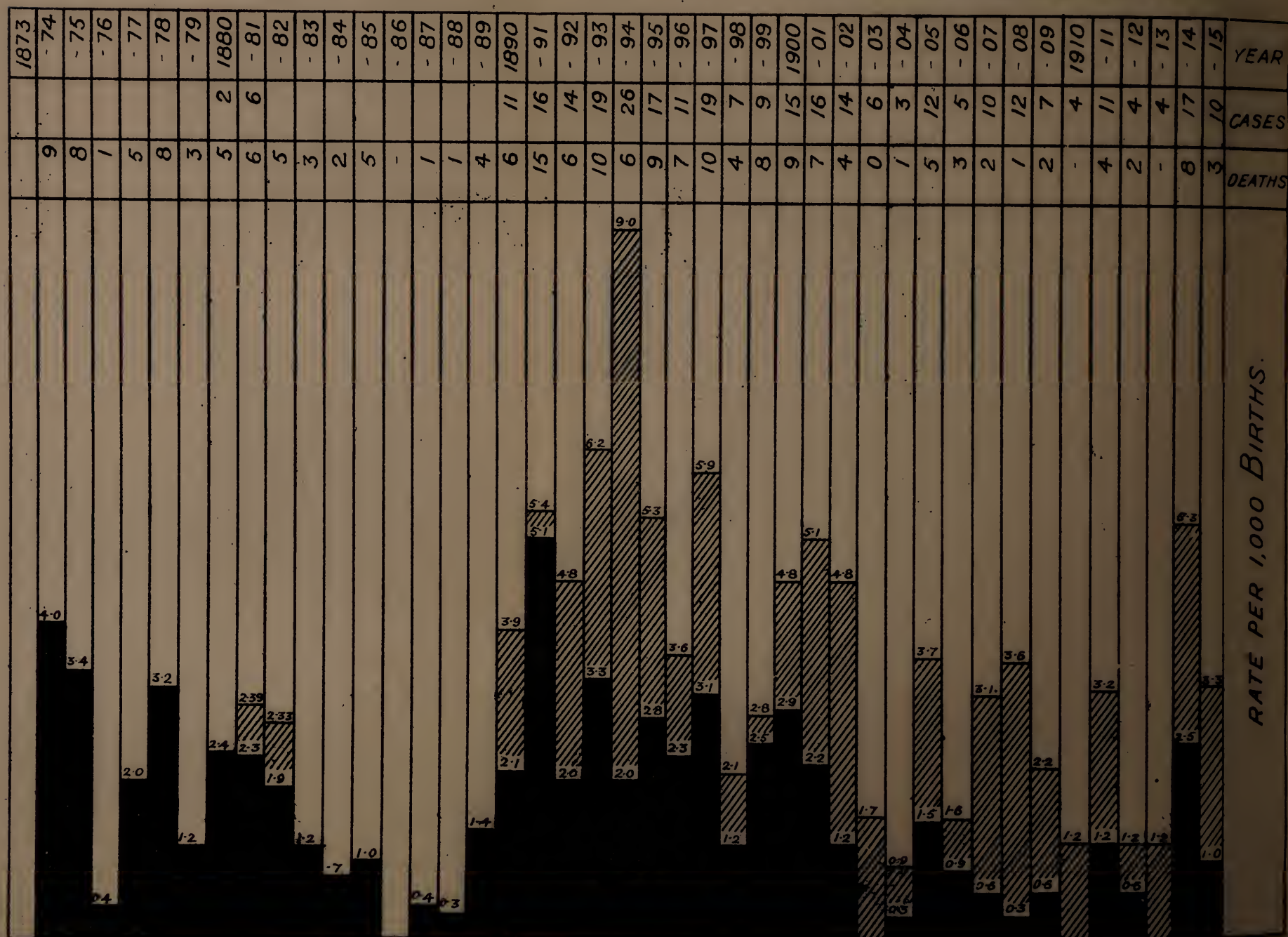


Black Columns
indicated by the Shaded Columns

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Table 49.

DIAGRAM SHOWING ATTACK RATE AND DEATH RATE FROM PUERPERAL FEVER.



The Attack Rate is represented by the Shaded Columns and the Death Rate by the Black Columns.

ME AND DEATH RATE FROM MEASLES

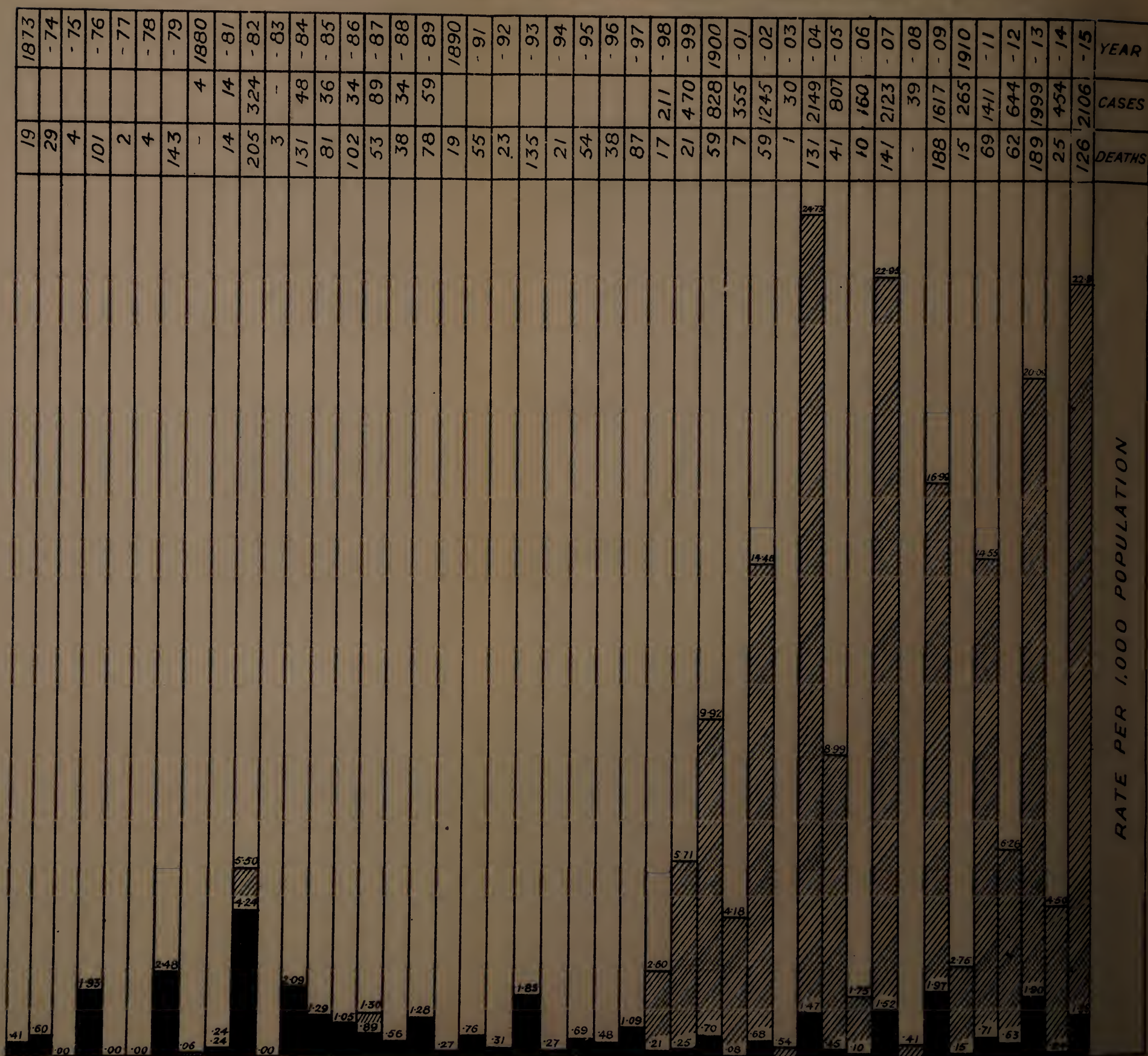


Entered by the Shaded Columns

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Table 50.

DIAGRAM SHOWING ATTACK RATE AND DEATH RATE FROM MEASLES.



The Attack Rate is represented by the Shaded Columns
and the Death Rate by the Black Columns.

THE BLACK COLONY'S DEATH RATE PER 1000 POPULATION

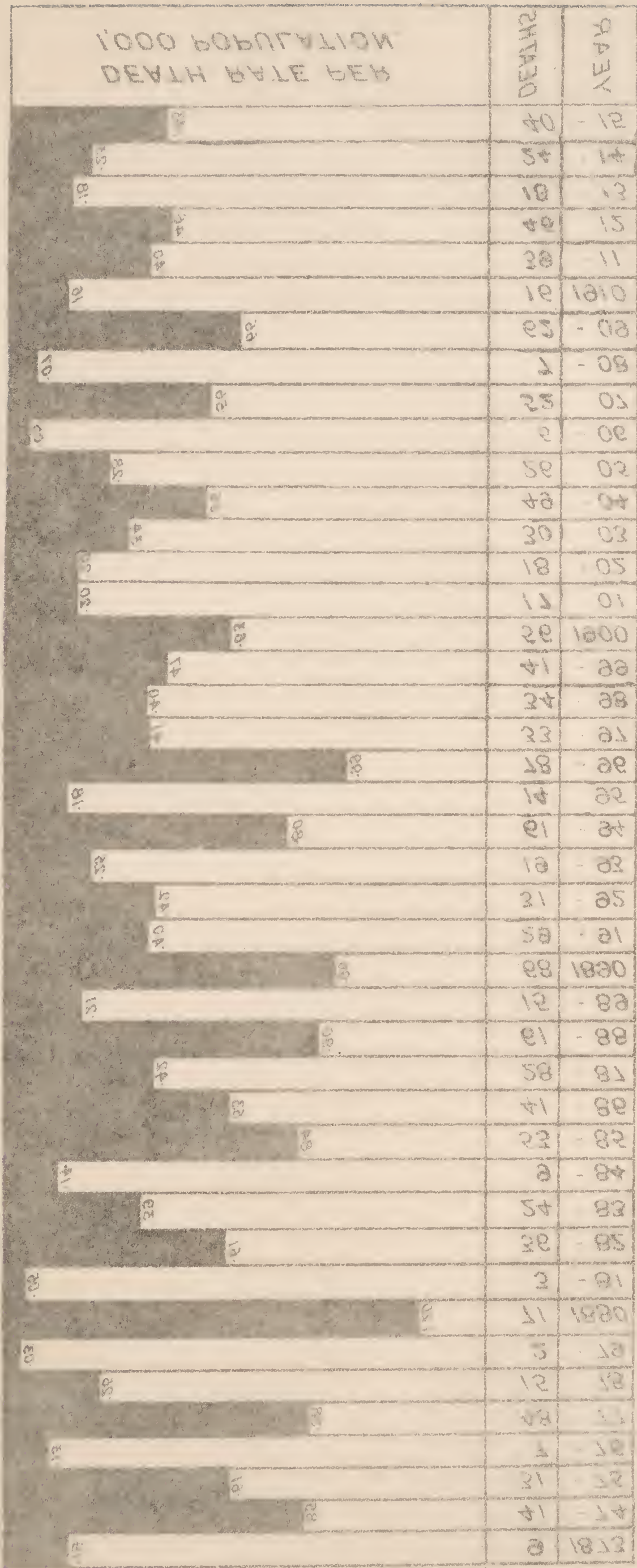
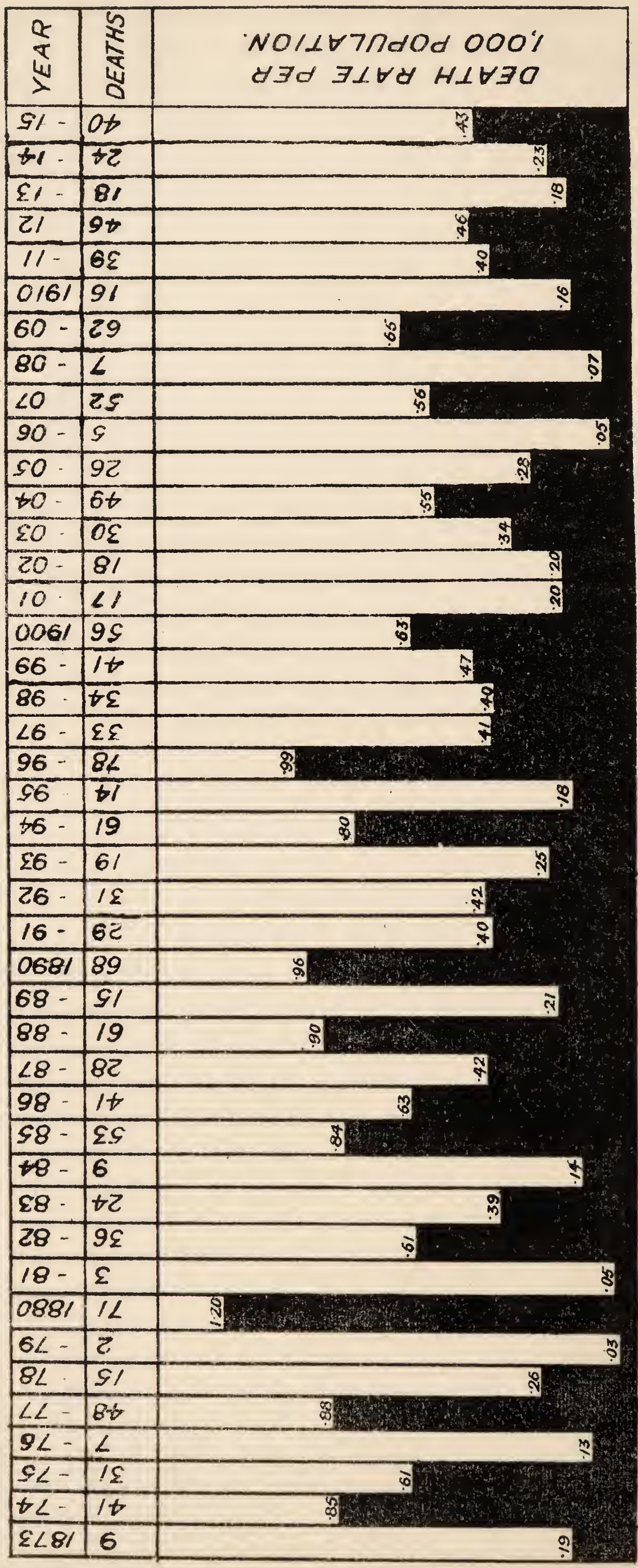


CHART SHOWING THE DEATH RATE PER 1000 POPULATION FOR THE BLACK COLONY

1912

Table 51.

DIAGRAM SHOWING THE DEATH RATE FROM WHOOPING COUGH.



The Black Columns represent the Death Rate.

2. ИТАЖА ДАА АЗДНААИД МОРУ АТАА ИТААД АНТ ДИМОНУС МАРАДАИД

YEAR	DEATH	DEATH RATE PER 1000 POPULATION
1912	28	48
14	38	32
13	150	150
15	42	20
11	550	530
1910	20	12
09	51	35
08	22	23
07	32	32
06	102	211
05	22	12
04	150	231
03	22	20
02	20	23
01	72	411
1900	21	102
99	114	121
98	140	201
97	122	121
96	22	22
95	105	121
94	28	24
93	122	230
92	28	711
91	17	101
1990	17	121
89	28	22
88	22	28
87	101	221
86	155	221
85	22	22
84	121	212
83	22	411
82	22	221
81	22	221
1890	121	221
80	25	22
79	121	22
77	17	141
76	24	221
75	101	220
74	111	220
1873	42	22

Table 52.

DIAGRAM SHOWING THE DEATH RATE FROM DIARRHŒA AND ENTERITIS.

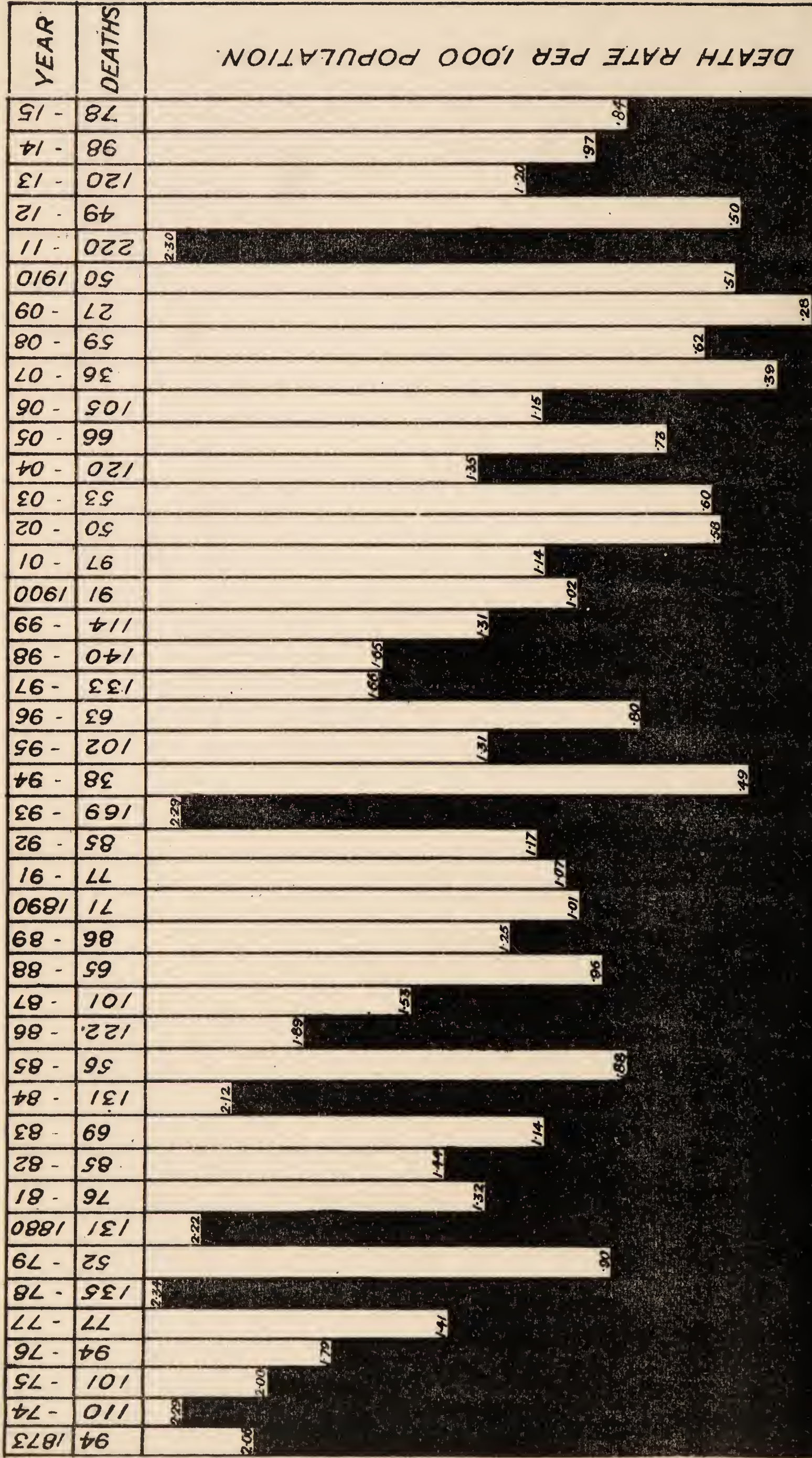
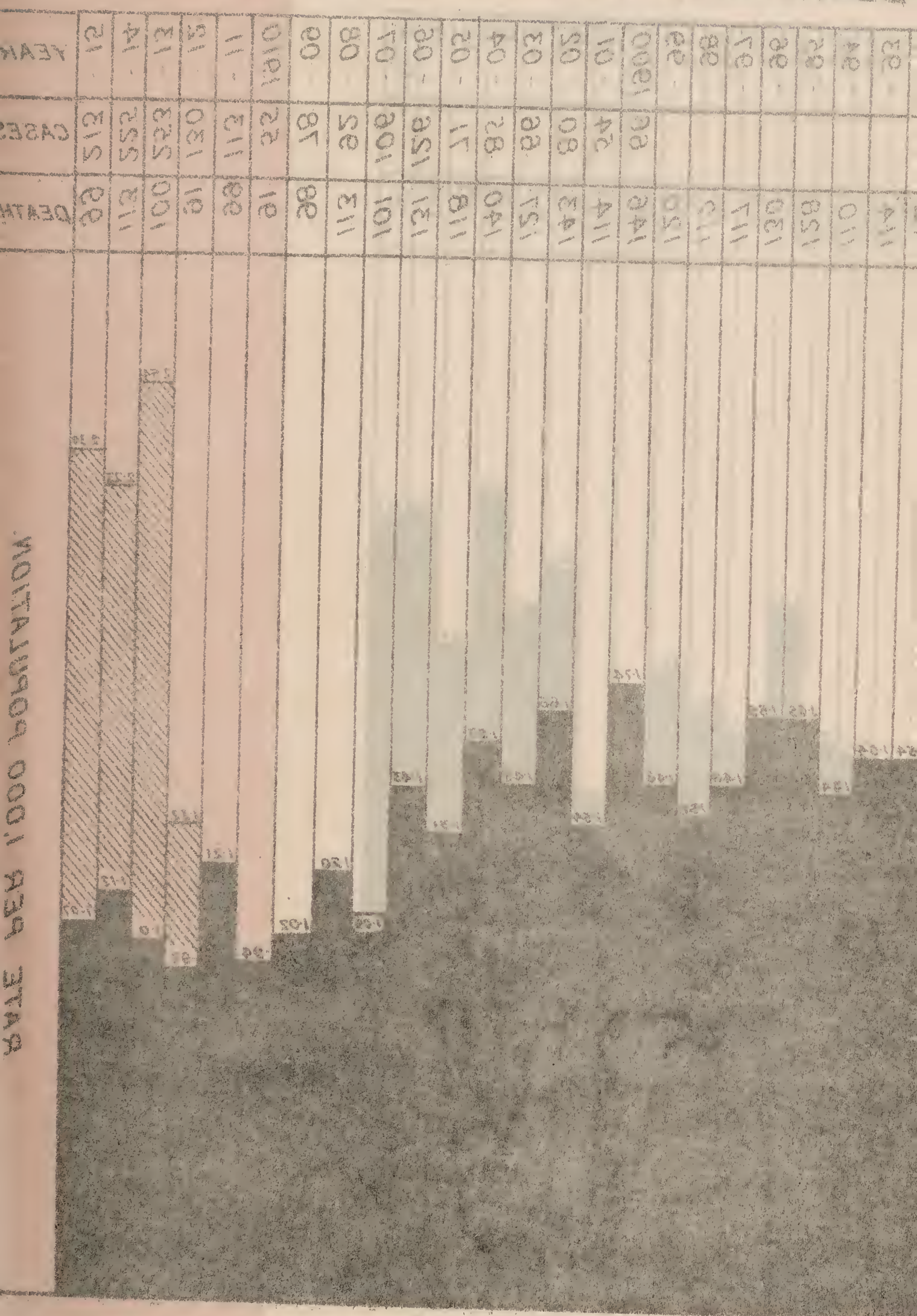


Table 23.

DEATH RATE FROM PULMONARY TUBERCULOSIS

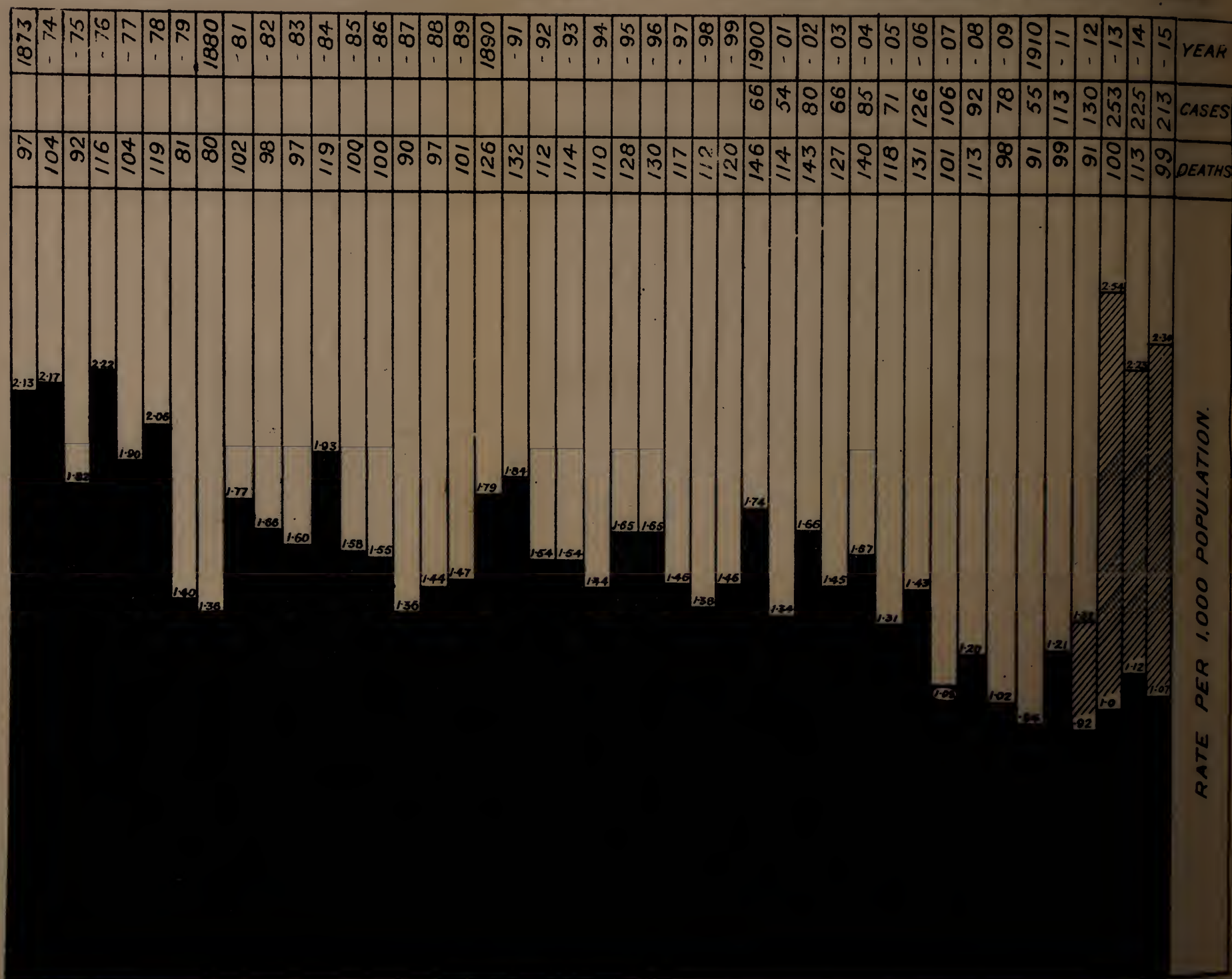


represented by the Shaded Columns.
the Black Columns.

1901 1902 1903 1904 1905 1906 1907 1908 1909 1910 1911 1912 1913 1914 1915 1916 1917 1918 1919 1920 1921

Table 53.

DIAGRAM SHOWING ATTACK RATE AND DEATH RATE FROM PULMONARY TUBERCULOSIS



The Attack Rate is represented by the Shaded Columns
and the Death Rate by the Black Columns.

Table 24.

Classification according to age of the cases of pulmonary tuberculosis.

	0-1	1-7	7-15	15-25	25-35	35-45	45-55	55-65	65 up
Males	...	2	20	25	24	24	20	7	1
Females	...	0	20	13	19	13	16	7	1
Total	...	14	40	38	43	37	36	14	2

9 of these have been previously notified.

Table 25.

The interval between the notification of cases of pulmonary tuberculosis and death.

Interval	Males		Females	
	Number of cases	Interval	Number of cases	Interval
1 year	12	0-1	3	0-1
2	3	1-2	2	1-2
3	2	2-3	1	2-3
4	1	3-4	0	3-4
5	1	4-5	0	4-5
6	1	5-6	0	5-6
7	1	6-7	0	6-7
8	1	7-8	0	7-8
9	1	8-9	0	8-9
10	1	9-10	0	9-10
11	1	10-11	0	10-11
12	1	11-12	0	11-12
13	1	12-13	0	12-13
14	1	13-14	0	13-14
15	1	14-15	0	14-15
16	1	15-16	0	15-16
17	1	16-17	0	16-17
18	1	17-18	0	17-18
19	1	18-19	0	18-19
20	1	19-20	0	19-20
21	1	20-21	0	20-21
22	1	21-22	0	21-22
23	1	22-23	0	22-23
24	1	23-24	0	23-24
25	1	24-25	0	24-25
26	1	25-26	0	25-26
27	1	26-27	0	26-27
28	1	27-28	0	27-28
29	1	28-29	0	28-29
30	1	29-30	0	29-30
31	1	30-31	0	30-31
32	1	31-32	0	31-32
33	1	32-33	0	32-33
34	1	33-34	0	33-34
35	1	34-35	0	34-35
36	1	35-36	0	35-36
37	1	36-37	0	36-37
38	1	37-38	0	37-38
39	1	38-39	0	38-39
40	1	39-40	0	39-40
41	1	40-41	0	40-41
42	1	41-42	0	41-42
43	1	42-43	0	42-43
44	1	43-44	0	43-44
45	1	44-45	0	44-45
46	1	45-46	0	45-46
47	1	46-47	0	46-47
48	1	47-48	0	47-48
49	1	48-49	0	48-49
50	1	49-50	0	49-50
51	1	50-51	0	50-51
52	1	51-52	0	51-52
53	1	52-53	0	52-53
54	1	53-54	0	53-54
55	1	54-55	0	54-55
56	1	55-56	0	55-56
57	1	56-57	0	56-57
58	1	57-58	0	57-58
59	1	58-59	0	58-59
60	1	59-60	0	59-60
61	1	60-61	0	60-61
62	1	61-62	0	61-62
63	1	62-63	0	62-63
64	1	63-64	0	63-64
65	1	64-65	0	64-65
66	1	65-66	0	65-66
67	1	66-67	0	66-67
68	1	67-68	0	67-68
69	1	68-69	0	68-69
70	1	69-70	0	69-70
71	1	70-71	0	70-71
72	1	71-72	0	71-72
73	1	72-73	0	72-73
74	1	73-74	0	73-74
75	1	74-75	0	74-75
76	1	75-76	0	75-76
77	1	76-77	0	76-77
78	1	77-78	0	77-78
79	1	78-79	0	78-79
80	1	79-80	0	79-80
81	1	80-81	0	80-81
82	1	81-82	0	81-82
83	1	82-83	0	82-83
84	1	83-84	0	83-84
85	1	84-85	0	84-85
86	1	85-86	0	85-86
87	1	86-87	0	86-87
88	1	87-88	0	87-88
89	1	88-89	0	88-89
90	1	89-90	0	89-90
91	1	90-91	0	90-91
92	1	91-92	0	91-92
93	1	92-93	0	92-93
94	1	93-94	0	93-94
95	1	94-95	0	94-95
96	1	95-96	0	95-96
97	1	96-97	0	96-97
98	1	97-98	0	97-98
99	1	98-99	0	98-99
100	1	99-100	0	99-100

Table 26.

Classification according to age of the cases of non-pulmonary tuberculosis.

Age	1 year	1-5	5-15	15-25	25-35	35-45	45-55	55-65	65 up
Males	0	20	22	14	7	3	5	..	27
Females	0	19	21	10	5	1	..	1	10
Total	12	39	44	24	12	4	5	1	37

9 of these have been previously notified.

Table 54.

Classification according to age of the cases of pulmonary tuberculosis.

	0-1	1-5	5-15	15-25	25-35	35-45	45-55	55-65	65 up.
Males	—	8	20	25	24	24	20	7	1
Females	—	6	30	13	19	13	6	5	1
Totals...	—	14	50	38	43	37	26	12	2

9 of these have been previously notified

Table 55.

The interval between the notification of cases of pulmonary tuberculosis and death.

Weeks.	WEEKS.								MONTHS.										
INTERVAL.	Under 1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	Over 12
Number of Cases ..	18	2	3	5	1	1	2	6	10	5	5	3	1	1	3	1	—	2	21

Table 56.

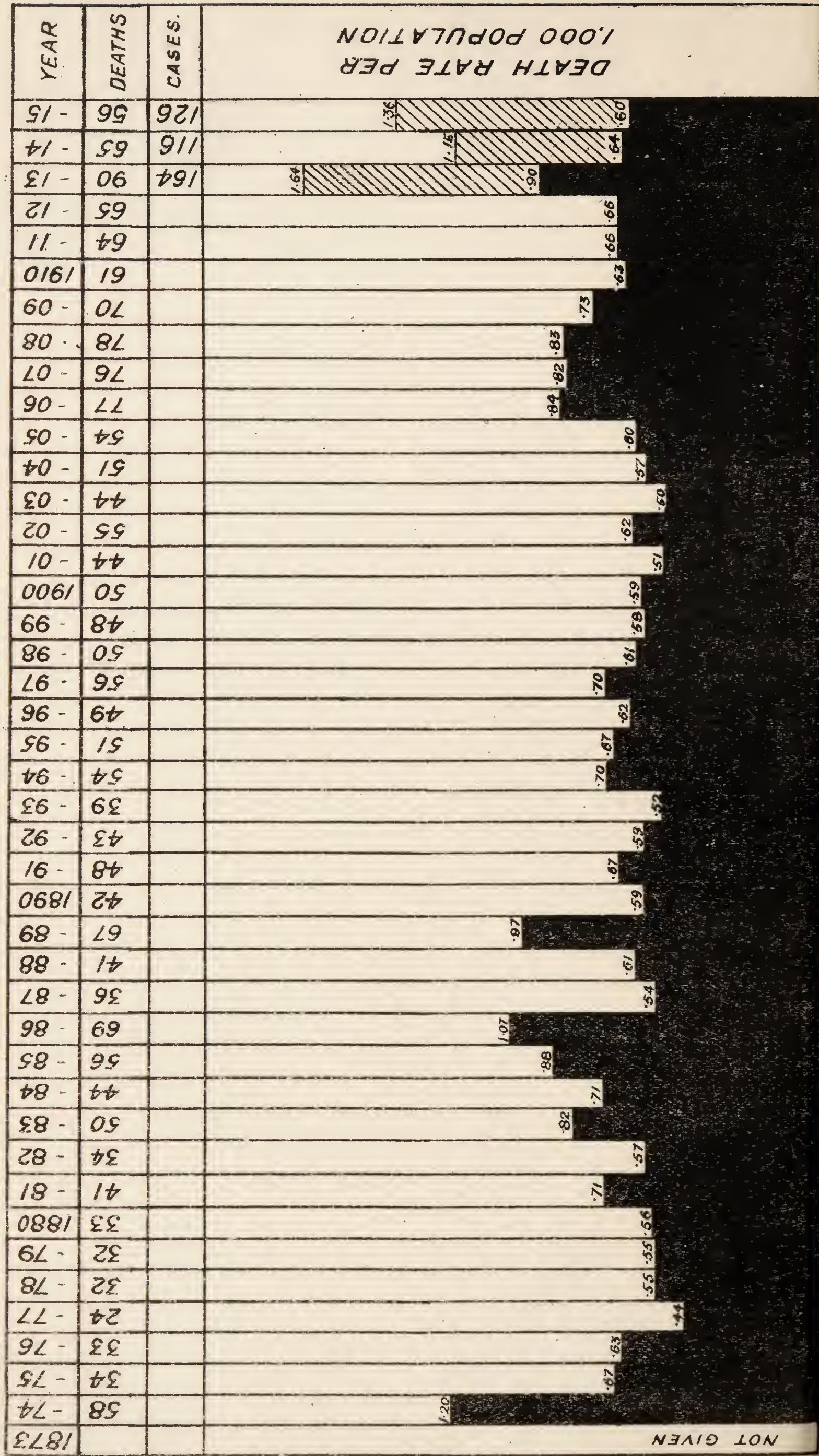
Classification according to age of the cases of non-pulmonary tuberculosis.

Ages.	Under 1 year	1-5	5-15	15-25	25-35	35-45	45-55	55-65	Over 65	Total
Males	9	20	23	11	7	3	2	..	..	75
Females	6	19	21	10	2	1	..	1	..	60
Total	15	39	44	21	9	4	2	1	:	135

9 of these have been previously notified.

Table 57.

DIAGRAM SHOWING THE DEATH RATE FROM FORMS OF TUBERCULOSIS OTHER THAN PULMONARY.



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Table 58.
The admissions and discharges at Eccleston Hall.

	Remaining in on Dec. 31st, 1914.		Admitted during 1915.		Discharged during 1915.		Died during 1915.		Left without permission.		Dismissed for unsatisfactory behaviour.		Remaining in on Dec. 31st, 1915.	
	Males	Females	Males	Females	Males	Females	Males	Females	Males	Females	Males	Females	Males	Females
A (Early cases). ...	2	2	2	1	4	3	—	—	—	—	—	—	—	—
B. (Intermediate cases).	6	6	29	18	16	10	1	5	3	—	—	—	15	9
C. (Late cases) ...	14	7	57	34	22	13	23	14	12	4	1	—	13	10
D. (Observation cases).	1	3	2	1	1	4	—	—	—	—	1	—	1	—

Table 59

Analysis of the present condition of patients discharged from Ecgleston Hall during 1914 and 1915.

	on discharge							Present condition						
	dead	permanently improved	temporarily improved	restored to work	restored to ordinary duties	restored to special duties	restored to full duties	dead	permanently improved	temporarily improved	restored to work	restored to ordinary duties	restored to special duties	restored to full duties
A	17	1	1	1	1	1	1	1	1	1	1	1	1	1
B	20	4	4	4	4	4	4	10	10	10	10	10	10	10
C	30	7	7	7	7	7	7	13	13	13	13	13	13	13
D	15	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	112	12	12	12	12	12	12	34	34	34	34	34	34	34

Table 60

Age and sex classification of new cases of tuberculosis attending the dispensary.

	Pulmonary		Other Forms		Totals	
	Males	Females	Males	Females	Males	Females
1-5	2	0	10	0	12	0
6-10	32	41	21	32	53	73
11-15	27	18	7	7	34	25
16-20	17	13	5	5	22	18
21-25	13	13	—	—	26	13
26-30	0	3	1	1	1	4
31-35	3	—	—	—	3	0
36-40	—	—	—	1	—	1
41-45	—	—	—	—	—	—
46-50	—	—	—	—	—	—
51-55	—	—	—	—	—	—
56-60	—	—	—	—	—	—
61-65	—	—	—	—	—	—
66-70	—	—	—	—	—	—
71-75	—	—	—	—	—	—
76-80	—	—	—	—	—	—
81-85	—	—	—	—	—	—
86-90	—	—	—	—	—	—
91-95	—	—	—	—	—	—
96-100	—	—	—	—	—	—
Total	107	72	42	107	149	130

Table 61

Number of attendances at the tuberculosis dispensary during 1915.

Number of attendances during the year		Number of new cases during the year 1915		Number of old cases attending on 31st Dec. 1914		Total	
1915	1443	...	...	195	...	108	60
1914	1443	...	...	195	...	108	60

Table 59.

Analysis of the present condition of patients discharged from Eccleston Hall during 1914 and 1915.

	Condition. on discharge.			Present condition.				
	Much Improved	Improved	Condition Unchanged	Satisfactory and at work	Satisfactory not working	Un- satisfactory	Dead	Lost sight of
A	17	1	—	12	4	1	1	—
B	50	4	10	18	32	2	10	2
C	36	7	24	20	18	13	13	3
D	12	—	—	2	8	1	—	1
Totals	115	12	34	52	62	17	24	6

Table 60.

Age and sex classification of new cases of tuberculosis attending the dispensary.

	Pulmonary.		Other Forms.		Totals.	
	Males.	Females.	Males.	Females.	Males.	Females.
1—5.....	2	3	16	9	18	12
5—15.....	38	41	31	25	69	66
15—25.....	27	13	5	7	32	20
25—35.....	15	15	5	5	20	20
35—45.....	13	13	—	—	13	13
45—55.....	9	3	1	1	10	4
55—65.....	3	—	—	—	3	0
65 upwards..	—	—	—	1	—	1
Totals	107	88	58	48	165	136

Table 61.

Number of attendances at the tuberculosis dispensary during 1915.

	Pulmonary.	Other forms
Number of old cases attending on 31st Dec., 1914 ...	127	66
Number of new cases during the year 1915 ...	195	106
Number of attendances during the year ...	1443	1318

THE Black Columns represent the Death Pillars. The Dead are placed around the pillars.

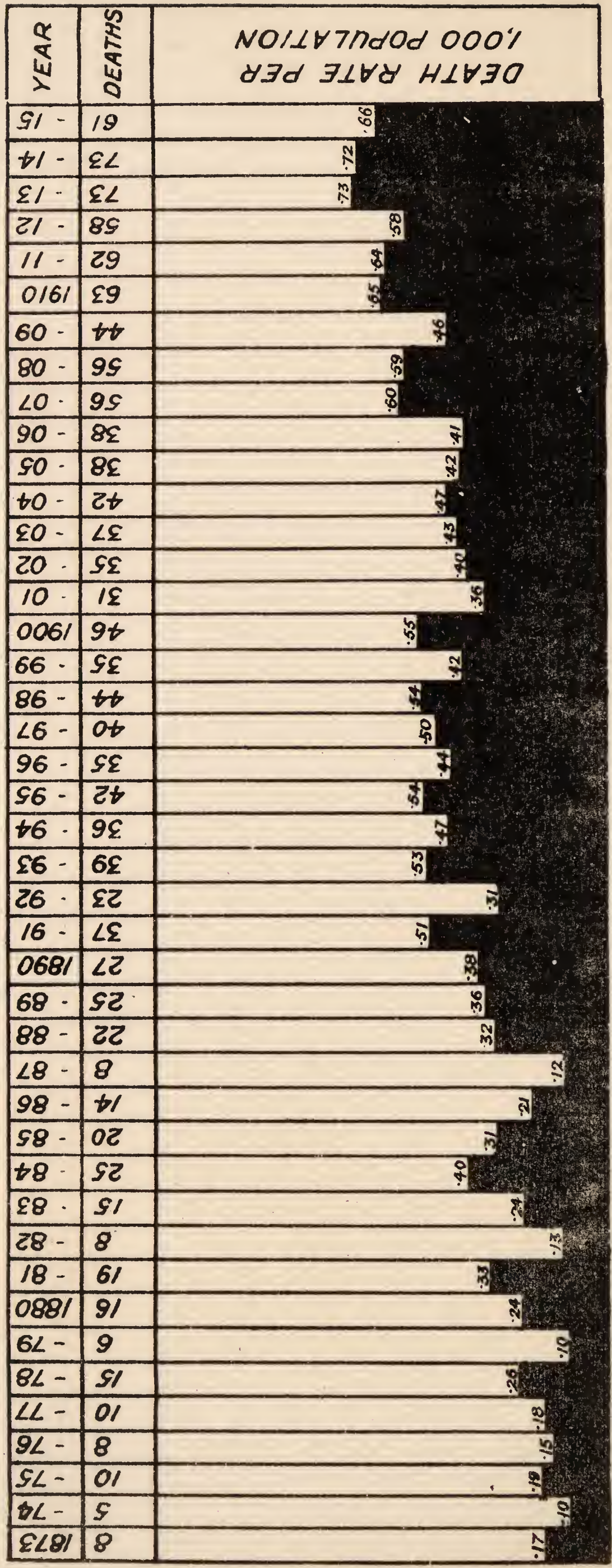
AREA	CONTAD	DEATH RATE PER 1000 POPULATION
12	18	8
14	32	1
13	32	1
15	28	4
11	25	2
1810	22	2
08	44	4
08	20	2
01	20	2
02	28	1
02	28	1
40	45	1
03	32	1
05	32	4
01	21	2
1800	40	2
28	32	1
28	44	2
19	40	4
20	32	4
22	45	2
24	30	1
22	20	2
25	52	1
18	32	1
1820	35	2
28	52	2
28	55	2
18	8	13
28	41	5
28	50	5
24	52	2
22	12	2
25	8	2
18	18	2
1820	18	2
28	8	2
28	12	2
11	10	2
28	8	2
22	10	2
24	2	2
1812	8	2

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Table 62.

DIAGRAM SHOWING THE DEATH RATE FROM CANCER AND MALIGNANT DISEASE.



The Black Columns represent the Death Rate.

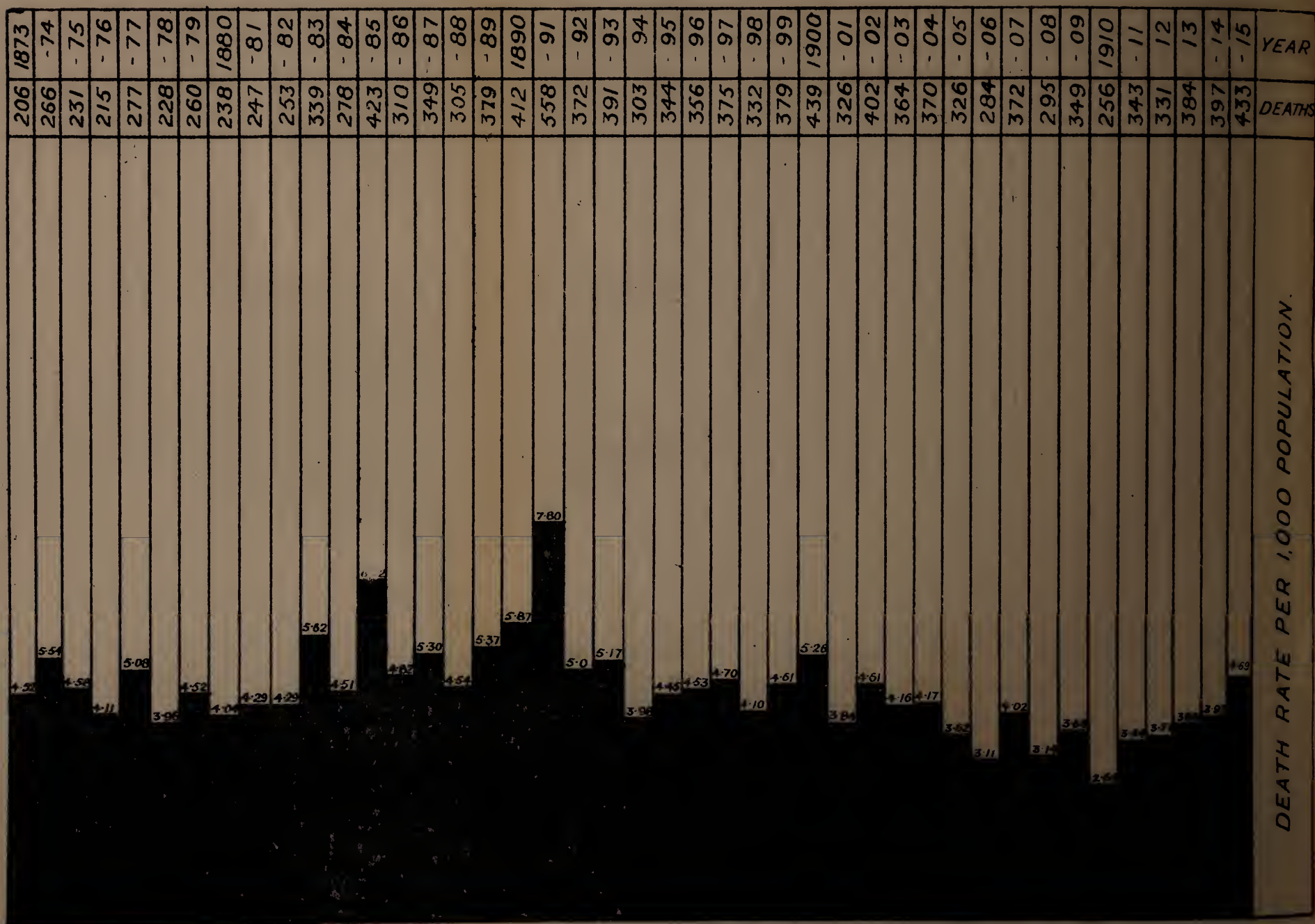
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Table 63.

DIAGRAM SHOWING DEATH RATE FROM BRONCHITIS, PNEUMONIA AND OTHER RESPIRATORY DISEASES.



The Death Rate is represented by the Black Columns.

OF CERTAIN WINDS AND THE DURING THE YEAR 1912.

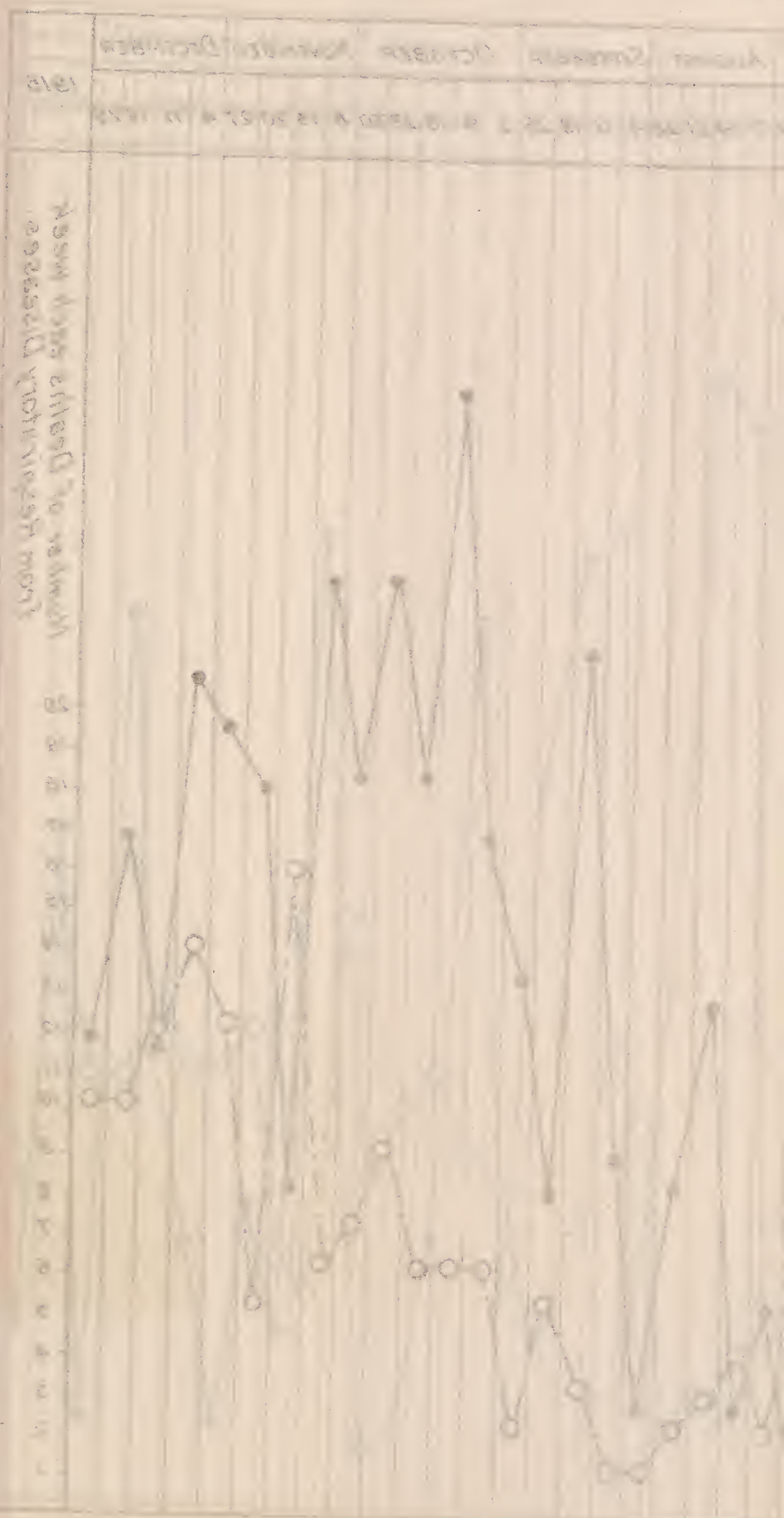


Table 64.

CHART SHOWING THE PREVALENCE OF CERTAIN WINDS AND THE DEATHS FROM RESPIRATORY DISEASES DURING THE YEAR 1915.

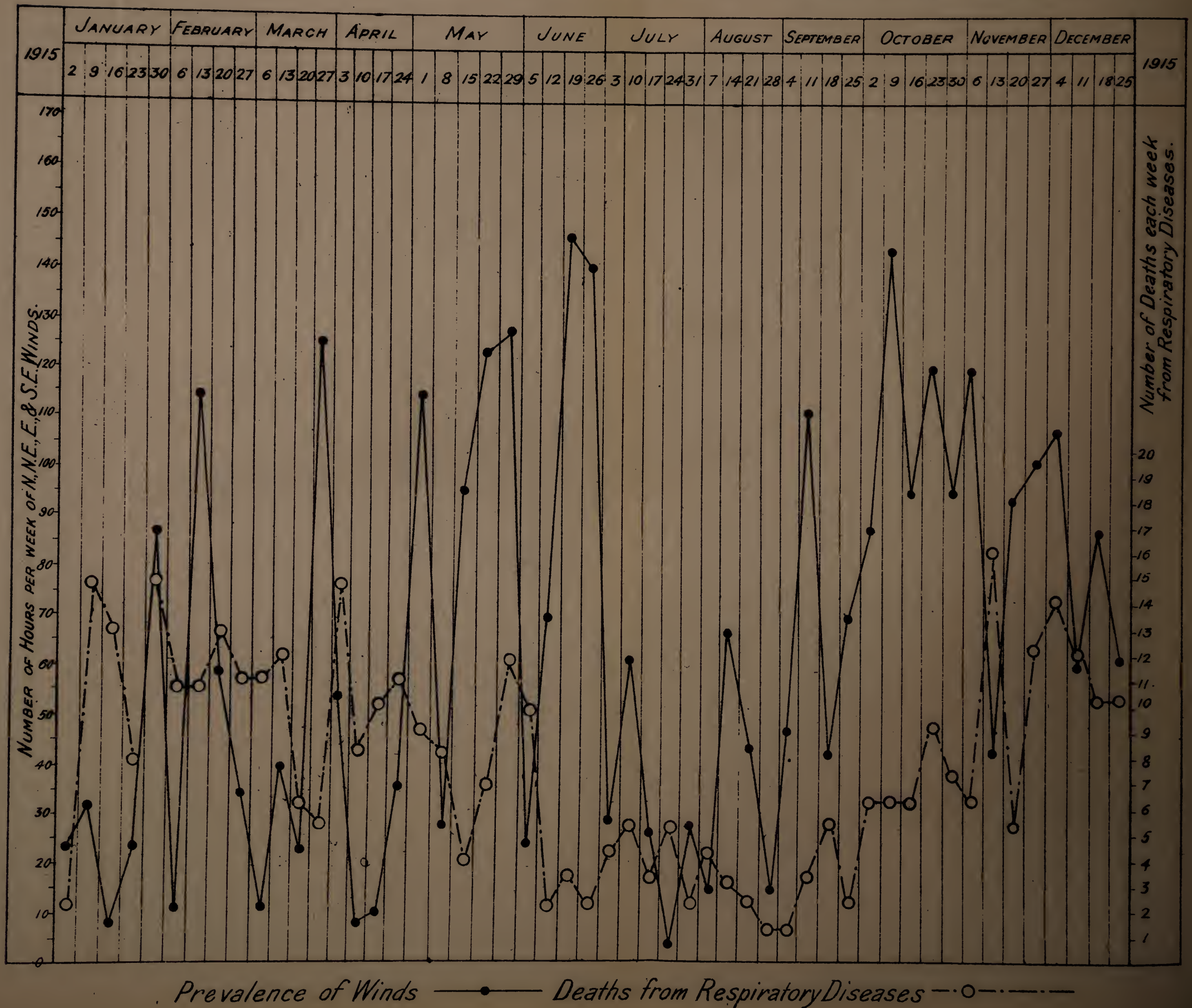


Table 65.

Number of notified births attended by midwives.

Year.	trained midwives.	untrained midwives.	Total.
1906	1,520	1,294	2,814
1907	1,739	1,245	2,984
1908	1,778	1,368	3,146
1909	1,789	1,293	3,082
1910	1,908	1,152	3,060
1911	2,009	1,185	3,194
1912	2,153	1,061	3,214
1913	2,296	983	3,279
1914	2,305	930	3,235
1915	2,383	550	2,933

Table 66.

Number of still births notified, and number buried in the cemeteries.

Years	1906	1907	1908	1909	1910	1911	1912	1913	1914	1915
Number of still- births notified	119	107	111	123	87	95	95	149	64	96
Number buried in cemeteries	127	131	125	129	138	101	116	144	139	114

Table 67.

Rate of infant mortality in the various wards.

	Number of deaths.	Death-rate per 1,000 births.
North Eccleston	38	99
South Eccleston	46	124
Central ...	26	145
North Windle ...	24	89
South Windle ...	25	120
Hardshaw	49	144
East Sutton	49	140
West Sutton	66	182
Parr ...	60	127

Table 66

Number of students attending for various

Year	Students	Teachers	Total
1907	100	10	110
1908	120	12	132
1909	140	14	154
1910	160	16	176
1911	180	18	198
1912	200	20	220
1913	220	22	242
1914	240	24	264
1915	260	26	286
1916	280	28	308
1917	300	30	330

Table 67

Number of students attending for various

Year	Students	Teachers	Total
1907	100	10	110
1908	120	12	132
1909	140	14	154
1910	160	16	176
1911	180	18	198
1912	200	20	220
1913	220	22	242
1914	240	24	264
1915	260	26	286
1916	280	28	308
1917	300	30	330

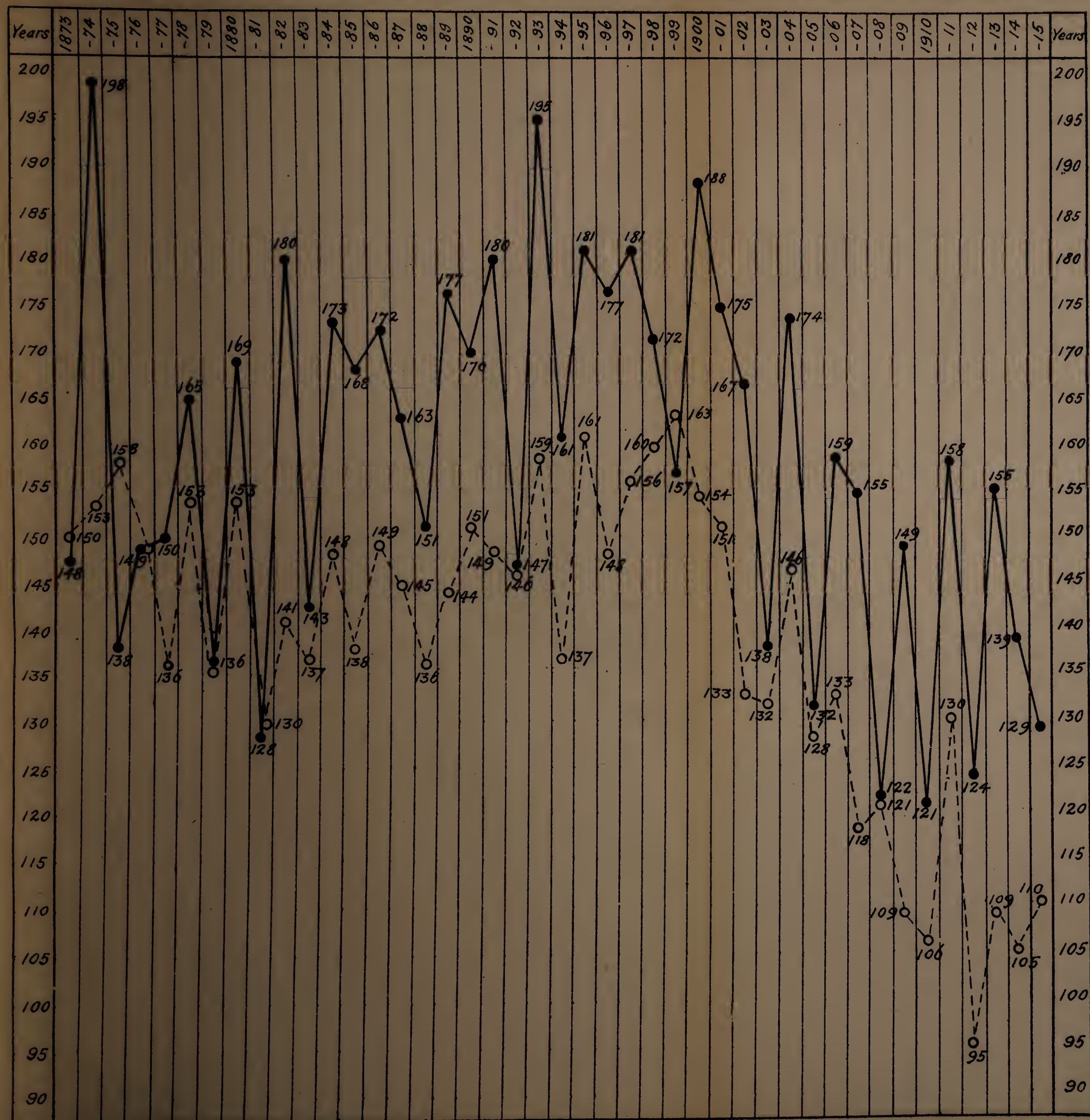
Table 68

Number of students attending for various

Year	Students	Teachers	Total
1907	100	10	110
1908	120	12	132
1909	140	14	154
1910	160	16	176
1911	180	18	198
1912	200	20	220
1913	220	22	242
1914	240	24	264
1915	260	26	286
1916	280	28	308
1917	300	30	330

Table 68.

INFANTILE MORTALITY RATE - ST. HELENS AND ENGLAND AND WALES - 1873-1915.



St. Helens. ——— England & Wales. ----○----

TABLE 69.

LOCAL GOVERNMENT BOARD TABLE I.

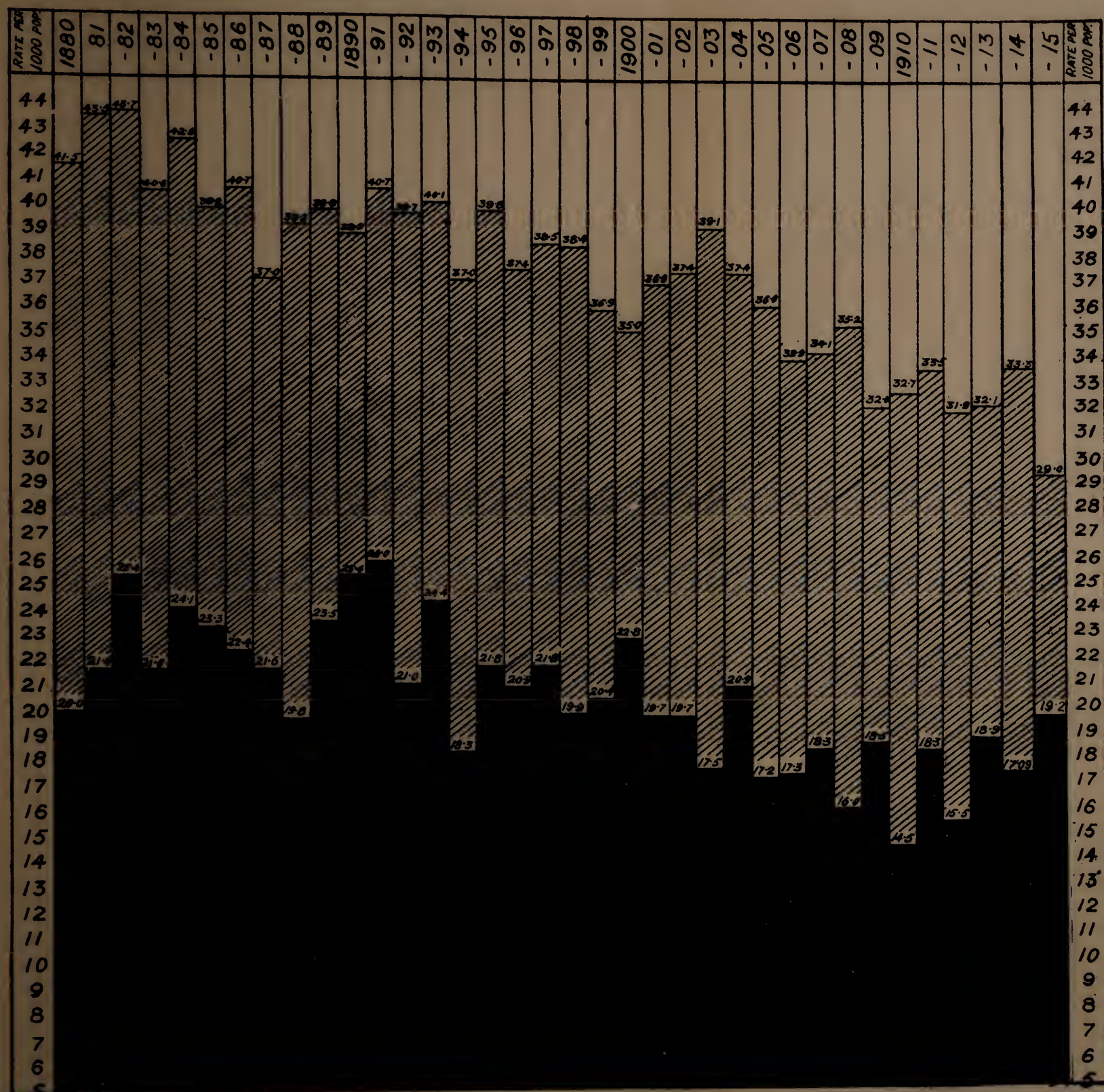
Vital statistics of whole district during 1915 and previous years.

YEAR.	Population estimated to Middle of each Year.	BIRTHS.			TOTAL DEATHS REGISTERED IN THE DISTRICT.		TRANSFERABLE DEATHS		NETT DEATHS BELONGING TO THE DISTRICT.			
		Uncorrected Number.	Nett.		Number.	Rate.	of Non-residents registered in the District.	of Residents not registered in the District.	Under 1 year of age.		At all Ages.	
			Number.	Rate.					Number.	Rate per 1,000 Nett Births.	Number.	Rate.
1	2	3	4	5	6	7	8	9	10	11	12	13
1910	96,523	3,158	—	32·7	1,357	14·0	73	123	384	121	1,407	14·5
1911	96,870	3,204	3,247	33·5	1,707	17·6	83	149	515	158	1,773	18·3
1912	98,159	3,103	3,137	31·9	1,429	14·5	76	68	389	124	1,521	15·4
1913	99,460	3,177	3,199	32·16	1,811	18·2	107	182	497	155	1,886	18·9
1914	100,775	3,326	3,357	33·31	1,602	15·8	98	219	464	138	1,723	17·0
1915	*92,240	2,948	2,966	†29·0	1,722	16·8	157	215	384	129	1,780	19·29

* Estimated civil population.

† The birth rate is based on the estimated total population for 1915—102,200

BIRTH RATE, DEATH RATE AND RATE OF NATURAL INCREASE. ST HELENS 1880 - 1915.



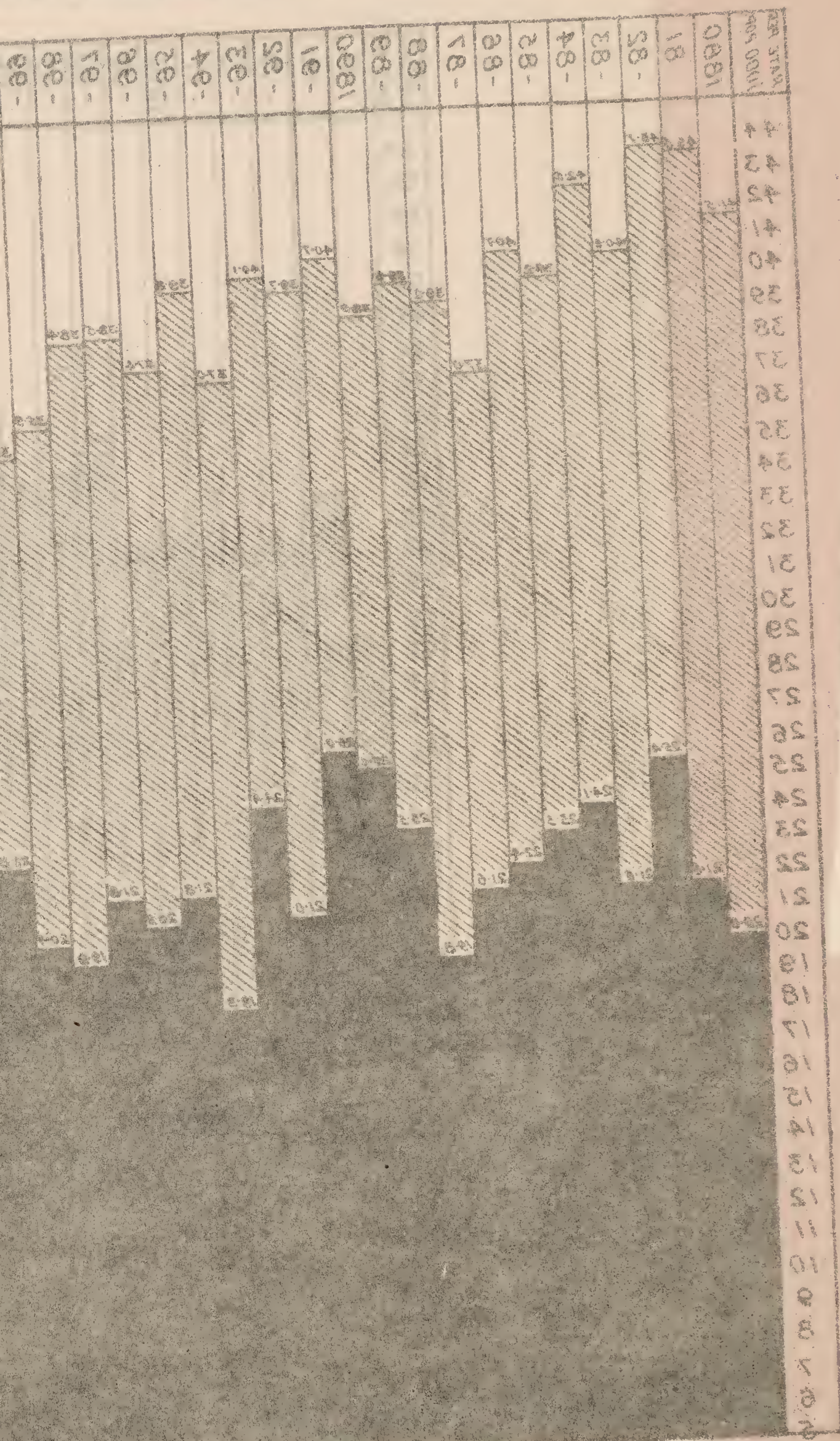
The Black portion represents the DEATH RATE.

The Shaded portion represents the RATE OF NATURAL INCREASE, or the excess of the Birth Rate over the Death Rate.

The BIRTH RATE is represented by the shaded portion PLUS the black portion.

The death rates are not corrected for age & sex distribution.

The death rates are not corrected for age &
 The BIRTH RATE is represented by the shaded
 the Birth Rate over the Death Rate.
 The shaded portion represents the RATE OF NATURAL
 The Black portion represents the DEATH RATE.



BIRTH RATE, DEATH RATE AND RATE OF NATURAL INCREASE

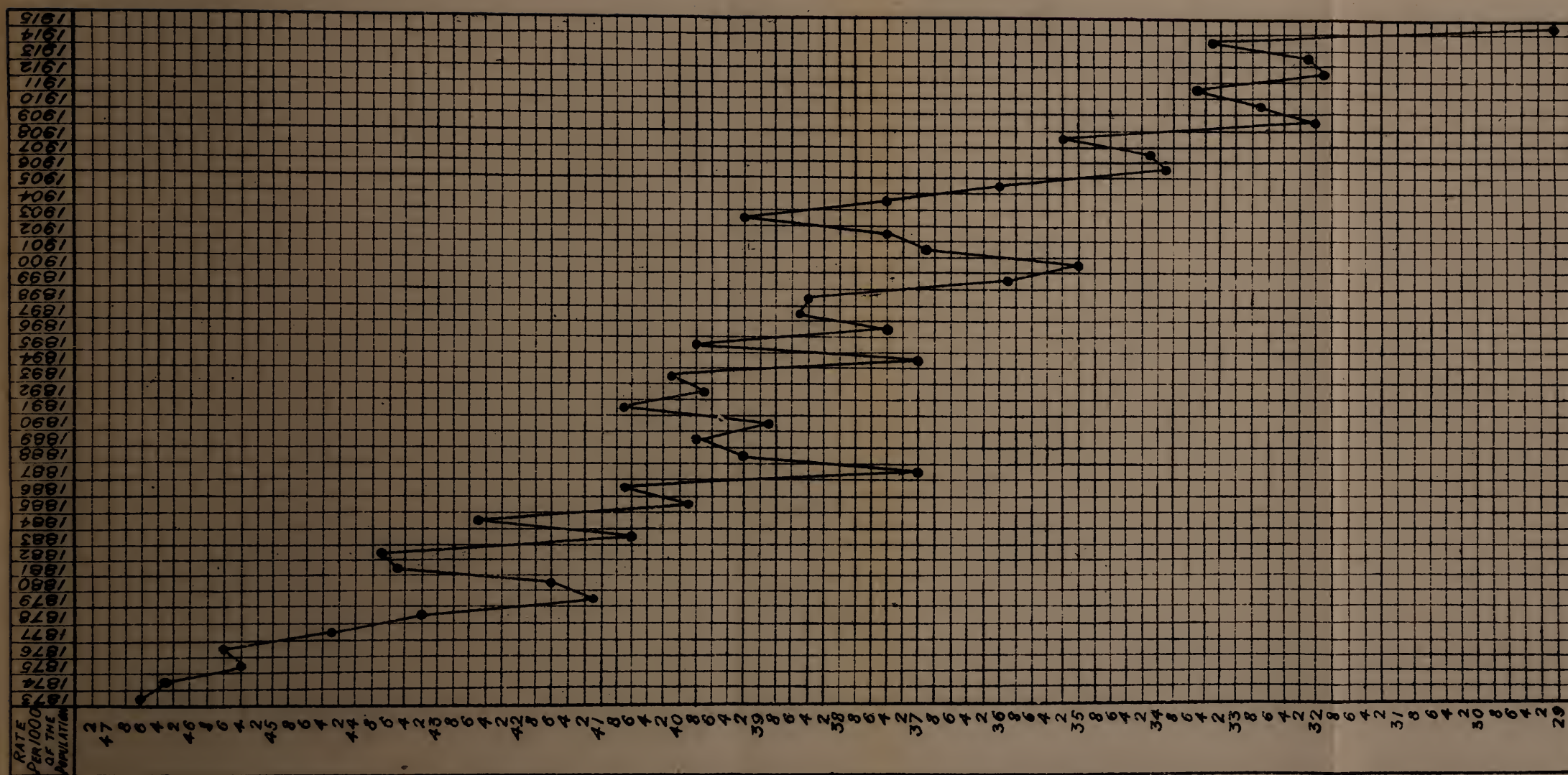
Table 71.
Statistics for St. Helens since 1883.

YEARS.	Population.	Birth Rate.	Death Rate.	Zymotic Death Rate.	Infantile Mortality Rate.	Rate of Persons Married.	DEATHS FROM							
							Small Pox.	Measles.	Scarlet Fever	Typhoid Fever.	Typhus Fever.	Diarrhoea.	Whooping Cough.	Diphtheria.
1883	60,263	40·69	21·65	2·5	143	—	0	3	14	31	1	69	24	11
1884	61,584	42·50	24·16	5·3	173	—	0	131	16	33	2	131	9	11
1885	62,932	39·93	23·32	3·5	168	—	0	81	13	7	1	56	53	11
1886	64,311	40·70	22·46	5·2	172	—	0	102	34	28	0	122	41	10
1887	65,718	37·00	21·69	3·9	163	—	0	53	35	34	0	101	28	11
1888	67,158	39·20	19·80	3·1	151	—	0	38	11	22	0	65	61	21
1889	68,628	39·86	23·50	4·18	177	—	0	78	3	81	1	85	15	29
1890	70,132	38·90	25·43	5·3	170	—	0	19	181	24	1	74	68	13
1891	71,509	40·80	26·02	3·0	180	—	0	54	24	26	0	78	29	9
1892	72,399	40·2	21·0	2·64	147	—	1	23	18	25	0	84	31	12
1893	73,576	41·3	24·4	5·4	196	—	5	135	6	52	0	168	19	16
1894	*76,112	37·8	18·3	2·21	161	14·6	0	21	14	26	2	38	61	10
1895	77,288	40·9	21·8	3·10	181	13·0	1	54	9	59	0	101	14	8
1896	78,482	38·7	20·9	3·73	177	13·2	0	38	59	40	0	63	78	17
1897	79,694	40·0	21·8	4·3	181	14·2	0	87	44	33	0	133	33	20
1898	80,926	40·3	19·9	3·2	172	14·2	0	17	24	30	0	140	34	16
1899	82,176	38·3	20·4	2·9	157	13·0	0	21	8	43	0	114	41	15
1900	83,445	37·1	22·8	3·2	188	13·0	0	59	25	19	0	91	56	19
1901	84,734	36·9	19·7	2·56	175	13·9	0	7	29	34	0	95	17	3
1902	86,043	37·4	19·7	2·60	167	11·4	0	59	52	25	0	50	18	20
1903	87,372	39·1	17·5	1·72	138	13·0	0	1	26	18	0	53	30	23
1904	88,722	37·4	20·9	3·96	174	12·9	3	131	17	13	0	120	49	22
1905	89,843	36·05	17·2	1·88	132	11·7	0	41	16	2	0	66	26	18
1906	91,153	33·9	17·3	1·79	159	11·9	0	10	4	18	0	105	5	22
1907	92,476	34·1	18·3	2·87	155	13·6	0	145	10	12	0	36	52	11
1908	93,812	35·2	16·0	1·32	122	12·3	0	0	29	12	0	59	7	17
1909	95,161	32·0	18·5	3·5	149	12·7	0	188	33	13	0	27	62	12
1910	96,523	32·7	14·5	1·26	121	13·1	1	15	22	10	0	51	16	7
1911	96,870	33·5	18·3	3·03	158	12·7	0	69	13	22	0	143	39	8
1912	98,159	31·9	15·5	1·76	124	14·0	0	62	19	8	0	49	46	19
1913	99,460	32·1	18·9	3·74	155	14·6	0	189	26	4	0	120	18	15
1914	100,775	33·3	17·0	1·62	138	14·1	0	25	5	4	0	98	24	8
1915	102,200	29·0	17·4	2·87	129	14·5	0	126	12	6	0	78	40	32
	†													
1915	92,240	32·1	19·3	3·1	—	16·1	—	—	—	—	—	—	—	—
	††													

† Estimated total population. †† Estimated civil population. * Borough extended.

Statistics for St. Helena since 1887.

Table 72.



NOTE: The birth rate, as based on the estimated total population for 1915, is 29.0 per thousand, but the rate obtained from the civil population is 32.1.

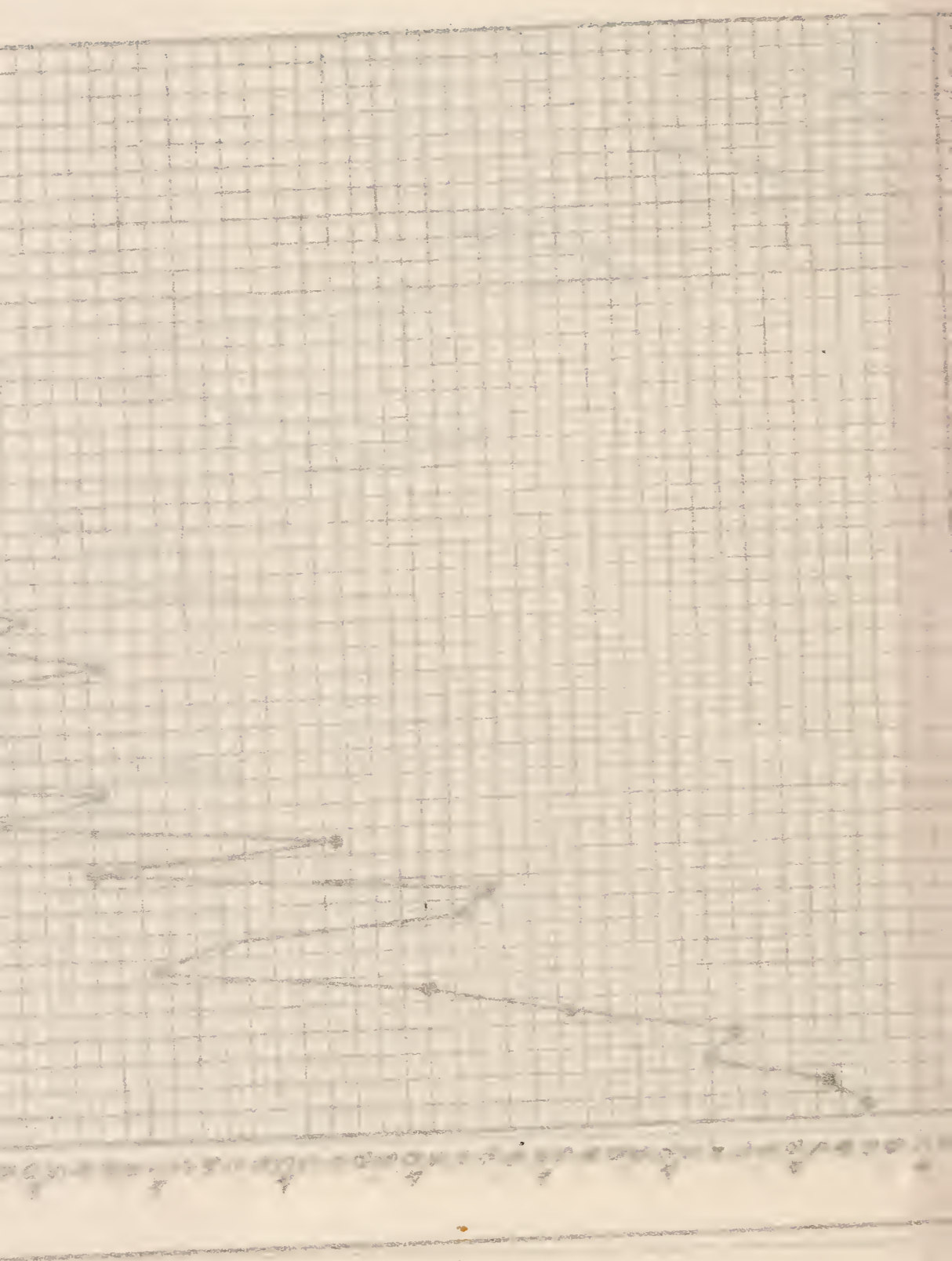


Table 73.

Birth-rates in the various wards.

WARDS.	Number of births notified.	Birth-rate per 1,000 estimated total pop'lation
North Eccleston	383	29·4
South Eccleston.	369	28·3
Central	179	28·7
North Windle	268	21·1
South Windle	207	24·3
Hardshaw	346	28·7
East Sutton	349	27·5
West Sutton	362	33·0
Parr	469	35·8

Table 74.

Number of illegitimate births.

Years.....	1899	1900	1901	1902	1903	1904	1905	1906	1907	1908	1909	1910	1911	1912	1913	1914	1915
Number of illegitimate births	69	67	76	75	76	76	68	70	87	80	84	71	108	84	96	97	92
Proportion per 1,000 population	0·83	0·80	0·90	0·87	0·86	0·85	0·75	0·76	0·94	0·85	0·88	0·73	1·11	0·85	0·96	0·96	0·90

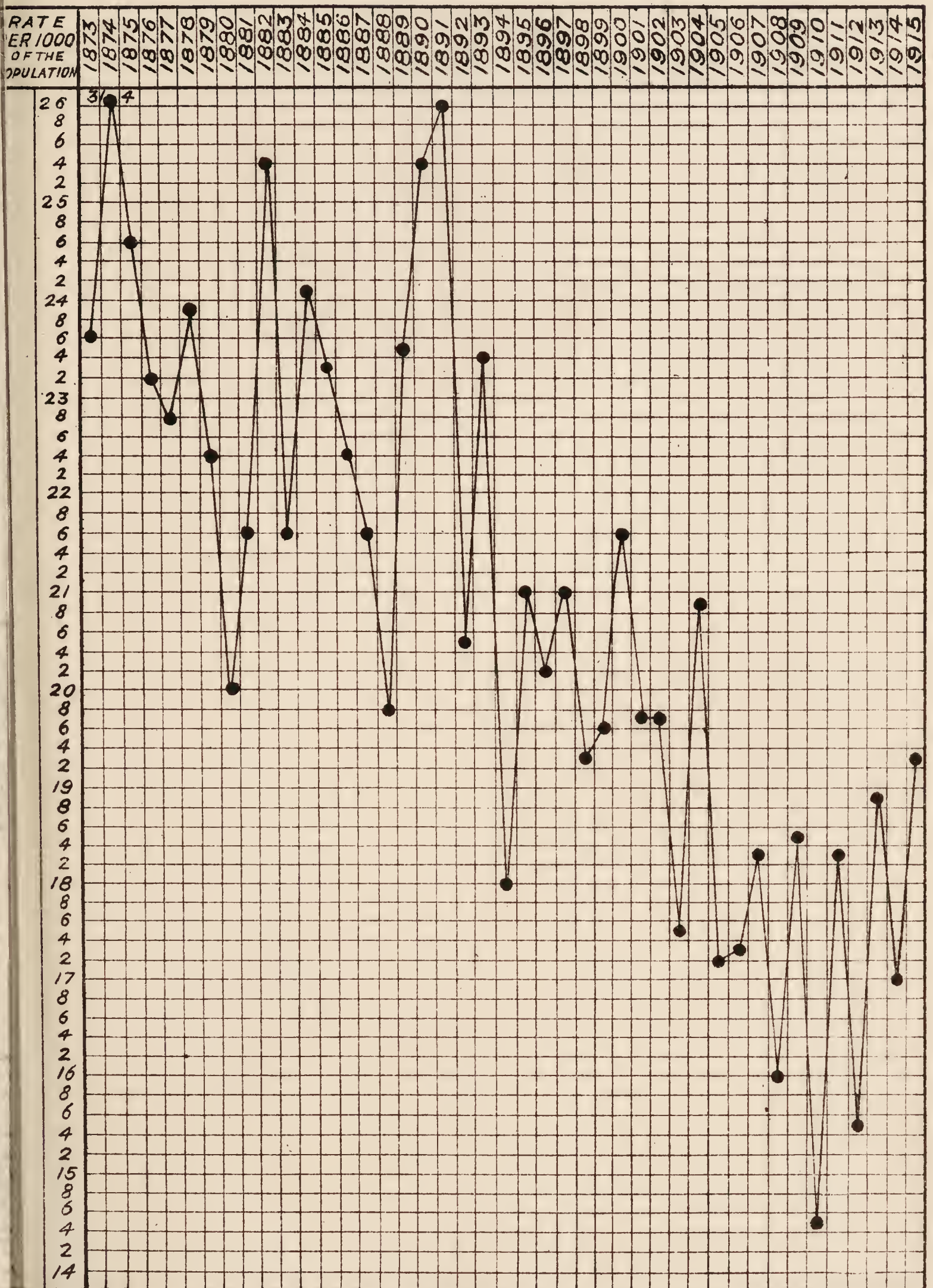
Table 75.

Number of marriages.

.....	1899	1900	1901	1902	1903	1904	1905	1906	1907	1908	1909	1910	1911	1912	1913	1914	1915
Number of marriages..	563	576	591	578	569	576	529	544	632	579	608	637	617	691	730	706	745
Marriage rate per 1,000 population..	13·00	13·00	13·94	11·42	13·02	12·98	11·76	11·93	13·6	12·3	12·7	13·1	12·7	14·09	14·6	14·01	14·5

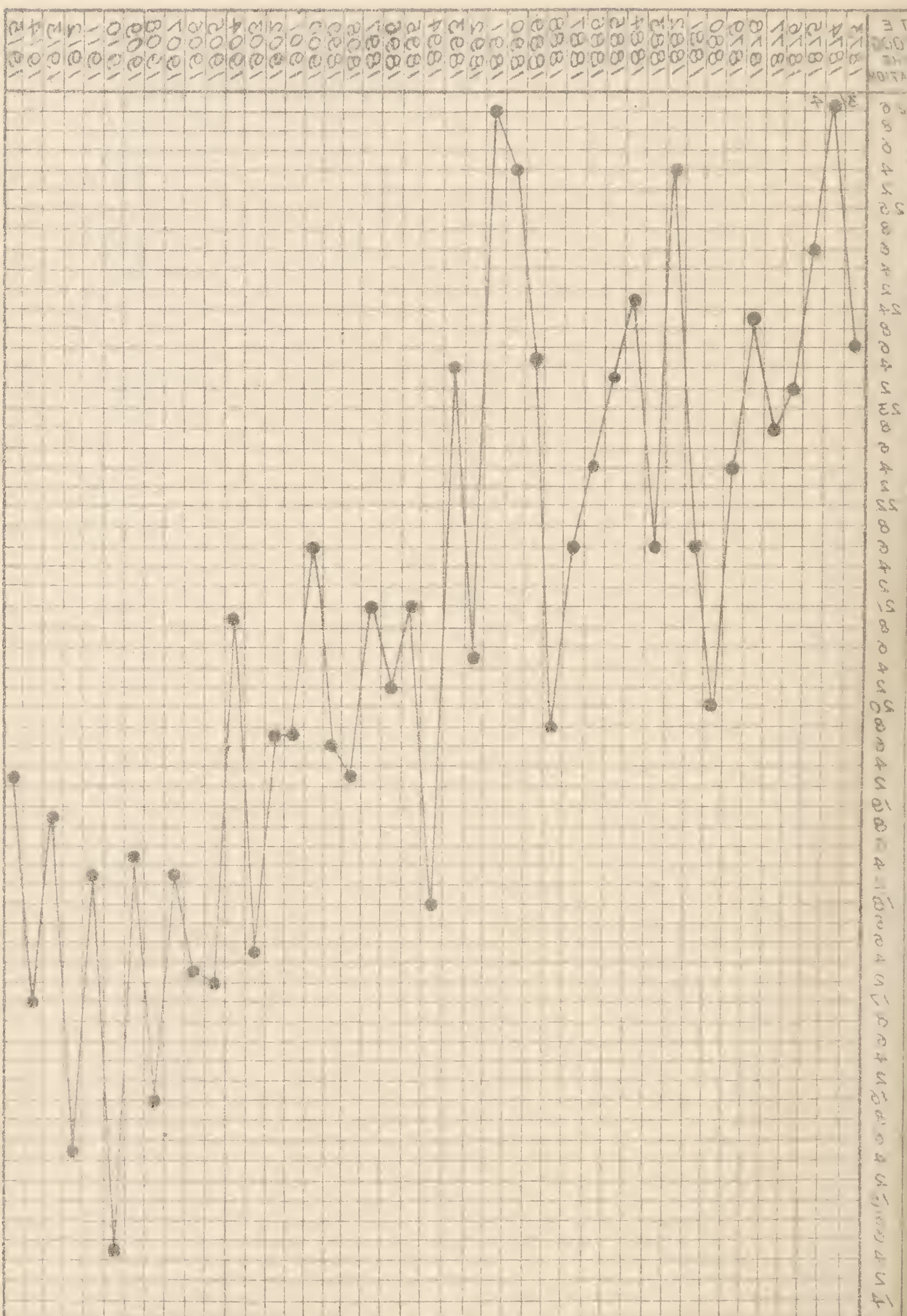
Table 76.

DEATH RATE — ST. HELENS, 1873-1915.



The death rate is not corrected for age & sex distribution.

DEATH RATE - St. Helens, 1873-1912.
Table 10.



This death rate is not corrected for age & sex distribution

Table 77.

Death rates in the various wards.

WARDS.	Number of deaths	Death rate per 1000
North Eccleston	201	15·4
South Eccleston	208	15·9
Central	154	24·7
North Windle	177	13·9
South Windle	142	16·6
Hardshaw	236	19·6
East Sutton	223	17·6
West Sutton	215	19·6
Parr	231	17·6

Table 77.

Death rates in the various wards.

Wards	Number of deaths	Death rate per 1000
Port	231	17.6
West Sutton	215	19.6
East Sutton	223	17.6
Hardshaw	236	19.6
South Winkle	142	16.6
North Winkle	177	13.9
Central	154	21.7
South Bealston	208	15.9
North Bealston	201	15.4

LOCAL GOVERNMENT TABLE III.

Table 78.

Causes of, and ages at, death during year 1915.

CAUSES OF DEATH.		NETT DEATHS AT SUBJOINED AGES.									Total Deaths whether of "Residents" or "Non-Residents" in Institutions in the District.
		All Ages.	Under 1 year.	1 and under 2 years.	2 and under 5 years.	5 and under 15 years.	15 and under 25 years.	25 and under 45 years.	45 and under 65 years.	65 and upwards.	
All causes	{ Certified Uncertified	1,723 57	361 23	192 2	163 3	121 7	89 3	195 6	313 10	289. 3	404 —
Enteric Fever		6	—	—	—	2	3	—	1	—	6
Small-pox		—	—	—	—	—	—	—	—	—	—
Measles		126	23	61	35	6	1	—	—	—	18
Scarlet Fever		12	—	—	8	4	—	—	—	—	10
Whooping Cough.....		40	15	15	9	1	—	—	—	—	3
Diphtheria and Croup		32	3	6	12	10	—	1	—	—	22
Influenza		20	1	—	—	1	1	6	7	4	2
Erysipelas.....		2	1	—	—	—	—	1	—	—	—
Phthisis(PulmonaryTuberculosis)		99	2	—	5	15	13	40	24	—	25
Tuberculous Meningitis		18	4	3	3	6	1	1	—	—	5
Other Tuberculous Diseases		38	4	3	10	7	7	4	3	—	8
Cancer, malignant disease		61	—	—	1	—	2	7	32	19	5
Rheumatic Fever		12	—	—	1	4	3	3	1	—	5
Meningitis.....		36	8	7	9	8	1	2	—	1	12
Organic Heart Disease		94	—	—	—	6	5	19	33	31	18
Bronchitis.....		211	33	14	12	3	1	11	68	69	17
Pneumonia (all forms).....		204	50	32	37	15	14	28	23	5	60
Other diseases of Respiratory organs		18	4	2	—	2	—	3	5	2	2
Diarrhœa and Enteritis		78	51	17	4	1	2	—	1	2	4
Appendicitis and Typhlitis		1	—	—	—	1	—	—	—	—	1
Cirrhosis of Liver		10	—	—	—	—	—	1	6	3	3
Alcoholism		—	—	—	—	—	—	—	—	—	—
Nephritis and Bright's Disease		58	—	2	2	1	3	12	20	18	27
Puerperal Fever		3	—	—	—	—	1	2	—	—	2
Other accidents and diseases of Pregnancy and Parturition ..		13	—	—	—	—	5	8	—	—	3
Congenital Debility and Malformation,incluing Premature Birth		128	118	3	5	1	1	—	—	—	9
Violent Deaths, excluding Suicide		61	1	2	3	11	8	16	15	5	24
Suicide		5	—	—	—	—	1	2	2	—	—
Other Defined Diseases		367	60	22	9	18	18	33	75	132	112
Diseases ill-defined or unknown		27	6	5	1	5	1	1	7	1	1
		1780	384	194	166	128	92	201	323	292	404
Sub-Entries. included in above figures.	Cerebro-spinal Meningitis.....	4	—	1	—	3	—	—	—	—	3
	Poliomyelitis.....	—	—	—	—	—	—	—	—	—	—
	Cerebral Hæmorrhage.....	42	—	—	—	—	—	4	17	21	8
	Senility	82	—	—	—	—	—	—	3	79	1
	Pneumonia	123	18	17	16	11	13	25	19	4	48
	Venereal Disease ...	11*	2	—	—	—	—	4	5	—	37

* This figure does not include any deaths from premature birth, marasmus, &c.

Table 79.

Plans deposited and approved by the Health Committee.

	1904	1905	1906	1907	1908	1909	1910	1911	1912	1913	1914	1915
Dwelling-houses	353	509	299	206	128	139	143	199	305	212	414	191
Other buildings	21	17	25	18	8	17	29	14	27	13	23	13
Alterations to existing buildings	85	43	43	34	34	45	20	31	29	30	52	27
Total.....	459	569	367	258	170	201	192	244	361	255	489	231

The wards of the borough in which dwelling houses have been erected during the years mentioned.

Year.	North Eccleston	South Eccleston	Central	North Windle	South Windle	Hardshaw	East Sutton	West Sutton	Parr	Total
1904	105	53	7	37	18	47	59	1	70	395
1905	19	93	1	44	16	90	42	10	54	366
1906	11	51	—	31	13	31	73	24	39	260
1907	22	38	—	26	—	22	77	3	29	219
1908	2	52	—	4	2	27	22	—	20	127
1909	—	36	—	10	—	10	6	3	10	75
1910	2	31	—	10	—	24	18	—	25	110
1911	14	20	—	—	—	30	75	26	12	177
1912	35	28	—	4	—	26	28	58	1	180
1913	10	31	—	—	3	19	14	99	6	182
1914	10	42	—	9	16	14	20	63	29	203
1915	6	9	0	26	1	2	8	25	27	104

et alidst

„Ich bin ein Mensch, der die Welt nicht so sieht, wie sie ist, sondern wie sie sein sollte.“

Year.	above notched	above notched	(inches)	above notched	above notched	above notched	above notched	above notched	above notched	above notched
1912	6	0	0	36	1	5	2	32	37	101
1914	10	15	—	0	16	14	50	68	50	503
1913	10	31	—	—	3	16	14	14	0	187
1915	32	52	—	4	—	36	58	58	1	140
1911	14	50	—	—	30	29	29	15	15	151
1910	5	31	—	10	—	34	18	—	52	110
1900	—	36	—	10	—	10	6	8	10	52
1908	5	25	—	4	5	57	53	50	157	519
1907	35	38	—	56	—	55	57	58	519	519
1906	11	21	—	31	13	31	48	38	360	360
1902	10	68	1	44	16	00	45	24	366	366
1904	102	23	7	37	12	47	20	40	362	362

Table 80.

Account of magisterial proceedings taken during 1915.

15th Jan., 1915 ..	Offences against Section 4 of Shops Act	Fined 2/6 and costs
1st Feb., 1915 ..	For selling adulterated chopped suet (4 cases)	One of the defendants was fined 20/- and costs 17/6, and the other defendants were each fined 40/- and costs 17/6.
19th Feb., 1915 ..	Offence against Section 4 of Shops Act, 1912	Dismissed on payment of costs, 6/6.
30th April, 1915..	Offences under Margarine Act, 1887, and Section 4, Shops Act, 1912.....	Fined 13/- in each case or 14 days, or 26/- in all or 28 days.
28th May, 1915 ..	Offence under Section 203 St. Helens Improvement Act, 1869 with respect to slaughtering swine in unlicensed premises.. (3 cases)	Two defendants were each fined 10/-, and the other defendant was fined 20/-.
4th June, 1915..	For selling adulterated milk	Fined 40/- or 14 days.
4th June, 1915..	do.	Dismissed.
16th July, 1915 ..	Offence against Section 4 of Shops Act, 1912	Fined 6/-.
16th July, 1915 ..	Offence against Section 98, St. Helens Corporation Act, 1911, with respect to Common Lodging house	Fined 10/- or 7 days.
6th Aug., 1915..	Offence against Section 4 of Shops Act, 1912	Fined 10/- or 7 days.
12th Nov., 1915 ..	Offence against Section 3 of Sale of Food and Drugs Act Amendment Act, 1879, with respect to milk	Fined 40/- and costs and 12/6 Witness's expenses.
3rd Dec., 1915..	Offence against Section 3 of Sale of Food and Drugs Act Amendment Act, 1879, with respect to milk	Dismissed on payment of costs.
20th Dec., 1915 ..	Offence against Section 3 of Sale of Food and Drugs Act Amendment Act, 1879, with respect to milk	Fined £3.

Table 80.

Account of magisterial proceedings taken during 1915.

15th Jan., 1915 ..	Offences against Section 4 of Shops Act ..	Offences against Section 4 of Shops Act ..	Dismissed on payment of costs.
1st Feb., 1915 ..	For selling adulterated chopped meat (4 cases) ..	Dismissed on payment of costs.	Dismissed on payment of costs.
1st Feb., 1915 ..	Offences against Section 4 of Shops Act, 1912 ..	Dismissed on payment of costs.	Dismissed on payment of costs.
30th April, 1915 ..	Offences under Margarine Act, 1887 and Section 4, Shops Act, 1912 ..	Dismissed on payment of costs.	Dismissed on payment of costs.
2nd May, 1915 ..	Offences under Section 203, 24 Helms Improvement Act, 1889 with respect to slaughtering swine in unlicensed premises (3 cases) ..	Dismissed on payment of costs.	Dismissed on payment of costs.
10th June, 1915 ..	For selling adulterated milk ..	Dismissed on payment of costs.	Dismissed on payment of costs.
14th June, 1915 ..	do ..	Dismissed on payment of costs.	Dismissed on payment of costs.
10th July, 1915 ..	Offences against Section 4 of Shops Act, 1912 ..	Dismissed on payment of costs.	Dismissed on payment of costs.
10th July, 1915 ..	Offences against Section 98, 24 Helms Corporation Act, 1911 with respect to Common Lodging House ..	Dismissed on payment of costs.	Dismissed on payment of costs.
10th July, 1915 ..	Offences against Section 4 of Shops Act, 1912 ..	Dismissed on payment of costs.	Dismissed on payment of costs.
12th Nov., 1915 ..	Offences against Section 3 of Sale of Food and Drugs Act Amendment Act, 1879, with respect to milk ..	Dismissed on payment of costs.	Dismissed on payment of costs.
2nd Dec., 1915 ..	Offences against Section 3 of Sale of Food and Drugs Act Amendment Act, 1879, with respect to milk ..	Dismissed on payment of costs.	Dismissed on payment of costs.
2nd Dec., 1915 ..	Offences against Section 3 of Sale of Food and Drugs Act Amendment Act, 1879, with respect to milk ..	Dismissed on payment of costs.	Dismissed on payment of costs.

Table 81.

LOCAL GOVERNMENT BOARD TABLE IV.

INFANTILE MORTALITY DURING THE YEAR, 1915.

Deaths from stated Causes in Weeks and Months under One Year of Age.

CAUSES OF DEATH.		UNDER 1 WEEK.	1-2 WEEKS.	2-3 WEEKS.	3-4 WEEKS.	TOTAL UNDER 1 MONTH	1-3 MONTHS.	3-6 MONTHS.	6-9 MONTHS.	9-12 MONTHS.	Total Deaths under 1 year.
All causes {	Certified ...	48	13	16	10	87	58	52	84	80	361
	Uncertified	13	1	—	—	14	1	5	—	3	23
Small-pox		—	—	—	—	—	—	—	—	—	—
Chicken-pox		—	—	—	—	—	—	—	—	—	—
Measles		—	—	—	—	—	2	1	9	11	23
Scarlet fever		—	—	—	—	—	—	—	—	—	—
Whooping-Cough.....		—	—	—	2	2	1	3	5	4	15
Diphtheria and Croup ...		—	—	—	—	—	1	—	1	1	3
Erysipelas.....		—	—	1	—	1	—	—	—	—	1
Tuberculous Meningitis ...		—	—	—	—	—	—	—	2	2	4
Abdominal Tuberculosis..		—	—	—	—	—	—	—	—	1	1
Other Tuberculous Dis'ses.		—	—	—	—	—	—	3	1	1	5
Meningitis (<i>not Tuber'lo's</i>)		—	—	—	—	—	—	1	5	2	8
Convulsions		6	2	1	1	10	6	7	5	3	31
Laryngitis.....		—	—	—	—	—	—	—	—	1	1
Bronchitis.....		—	—	1	—	1	11	4	9	8	33
Pneumonia (all forms)...		—	—	—	—	—	3	9	14	24	50
Diarrhœa		—	—	—	—	—	3	6	7	1	17
Enteritis		—	—	—	1	1	6	8	14	5	34
Gastritis		—	—	1	2	3	—	3	—	1	7
Syphilis.....		—	—	—	—	—	2	—	—	1	3
Rickets		—	—	—	—	—	—	—	—	—	—
Suffocation, overlying ...		—	—	—	—	—	—	—	—	—	—
Injury at birth		2	—	—	—	2	—	—	—	—	2
Atelectasis		4	2	—	—	6	—	—	—	—	6
Congenital Malformations		1	1	—	—	2	1	1	—	—	4
Premature birth		25	3	5	3	36	4	—	1	—	41
Atrophy, Debility and Marasmus		19	5	6	1	31	16	10	7	9	73
Other Causes		4	1	1	—	6	3	1	4	8	22
		61	14	16	10	101	59	57	84	83	384

Nett Births in the year—legitimate 2,874 illegitimate 92

Nett Deaths in the year—legitimate 369 illegitimate 15

Net Births in the year—legitimate 2,671 illegitimate 92
 Net Deaths in the year—legitimate 866 illegitimate 15

CAUSES OF DEATH		61	14	16	10	101	25	24	25	224
All causes (Certified...)		18	13	16	10	87	58	52	84	361
Unverified		13	1	—	—	14	1	5	—	23
Small-pox		—	—	—	—	—	—	—	—	—
Chicken-pox		—	—	—	—	—	—	—	—	—
Measles		—	—	—	—	—	2	1	0	23
Scarlet fever		—	—	—	—	—	—	—	—	—
Whooping-cough		—	—	2	—	2	1	2	5	12
Diphtheria and Croup		—	—	—	—	—	1	—	1	2
Erysipelas		—	—	1	—	1	—	—	—	1
Tuberculous Meningitis		—	—	—	—	—	—	—	2	1
Abdominal Tuberculosis		—	—	—	—	—	—	—	—	1
Other Tuberculous Diseases		—	—	—	—	—	—	3	1	2
Meningitis (not Vesicular)		—	—	—	—	—	—	1	2	2
Convulsions		6	2	1	1	10	6	7	2	31
Laryngitis		—	—	—	—	—	—	—	—	1
Bronchitis		—	—	1	—	1	11	1	0	32
Pneumonia (all forms)		—	—	—	—	—	3	2	14	20
Dysentery		—	—	—	—	—	3	6	7	17
Enteritis		—	—	—	—	1	6	8	14	24
Gastritis		—	—	1	2	3	—	3	—	7
Typhoid		—	—	—	—	—	2	—	—	2
Rickets		—	—	—	—	—	—	—	—	—
Suffocation, overlying		—	—	—	—	—	—	—	—	—
Injury at birth		2	—	—	—	2	—	—	—	2
Atelectasis		1	2	—	—	6	—	—	—	6
Congenital Malformations		1	1	—	—	2	1	1	—	4
Premature birth		25	3	5	3	26	4	—	1	41
Atrophy, Debility and		—	—	—	—	—	—	—	—	—
Marasmus		10	2	6	1	21	16	10	7	53
Other Causes		1	1	1	—	6	2	1	1	22
Total		61	14	16	10	101	59	57	84	361
Under 1 year		—	—	—	—	—	—	—	—	—
1 year and over		—	—	—	—	—	—	—	—	—

Deaths from stated Causes in Weeks and Months under one Year of Age

INFANTILE MORTALITY DURING THE YEAR 1912
 LOCAL GOVERNMENT BOARD TABLE IV.

Table 81

Table 82.

LOCAL GOVERNMENT BOARD TABLE II.

Cases of Infectious Disease notified during the year 1915.

NOTIFIABLE DISEASE.	NUMBER OF CASES NOTIFIED.							TOTAL CASES NOTIFIED IN EACH LOCALITY. (e.g. Parish or Ward) of the District.								Total cases removed to Hospital.			
	At all Ages.	At Ages—Years.						North Eccleston.	South Eccleston.	North Windle.	South Windle.	East Sutton.	West Sutton.	Parr.	Central.		Hardshaw.		
		Under 1.	1 to 5.	5 to 15.	15 to 25.	25 to 45.	45 to 65											65 and upwards.	
Small-pox .....	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Cholera or Plague .....	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Diphtheria (including Membranous croup)	289	11	93	118	30	33	3	1	..	26	16	11	70	69	41	7	20	269	4
Erysipelas.....	74	3	3	6	12	15	28	7	..	9	6	2	9	6	13	4	12	4	..
Scarlet fever.....	+501	10	153	305	25	8	..	..	..	41	77	23	119	48	107	7	28	493	..
Typhus fever .....	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Enteric fever	* 27	..	..	10	8	7	1	1	..	1	3	2	9	2	2	1	7	27	..
Relapsing fever .....	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Continued fever.....	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Puerperal fever	10	..	..	..	4	6	..	..	..	..	2	..	..	2	2	..	2	10	..
Cerebro-spinal Meningitis	2	1	8	5	..	..	..	..	..	..	..	..	2	1	1	..	1	6	..
Poliomyelitis .....	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Ophthalmia Neonatorum	71	71	..	..	..	..	..	..	..	6	8	5	9	1	24	2	10	9	..
Pulmonary Tuberculosis.....	222	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Other forms of Tuberculosis	135	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Totals																			

* Fourteen cases, notified as enteric fever, proved not to be instances of this disease.

† One military case deducted.

‡ One military case deducted.

Table 83.

Canal Boats Acts, 1877 & 1884.

Number of boats inspected during 1915	...	...	...	...	20
Number of persons housed on board	...	...	...	...	45
Number of males housed on board	...	...	...	...	39
Number of females housed on board	...	...	...	...	6
Average number of persons per boat	...	...	...	...	2.25
Boats registered for five persons	...	...	...	...	0
Number of cases of infectious diseases on board the boats				...	Nil.
Number of notices and letters sent	...	...	...	...	5
Number of boats without certificate or registered number				...	4
Number of boats with leakages and requiring painting	...			...	1

Table 83.

General Boats Acts, 1877 & 1881.

20	...	...	...	...	Number of boats inspected during 1915
17	...	...	...	...	Number of persons housed on board
32	...	...	...	...	Number of males housed on board
6	...	...	...	...	Number of females housed on board
2.25	...	...	...	...	Average number of persons per boat
0	...	...	...	...	Boats registered for five persons
Nil.	...	...	...	...	Number of cases of infectious diseases on board the boats
5	...	...	...	...	Number of notices and letters sent
4	...	...	...	...	Number of boats without certificate or registered number
1	...	...	...	...	Number of boats with leakage and requiring painting

**SCHOOL
HYGIENE.**

PREFACE.

TO THE CHAIRMEN AND MEMBERS OF THE EDUCATION COMMITTEE.

LADIES AND GENTLEMEN,

I beg to submit the following report which deals with the work of medical inspection, following up and treatment of children attending the elementary schools, carried out during the year under the general direction of your medical officer.

In spite of difficulties arising out of the war the work of the department has been maintained and the success of the clinic has continued.

Now that the Committee has in review the various directions in which alterations may be advisable it may not be inopportune to suggest lines along which the health of the borough may be improved by the activities of the Education Committee.

In the first place the sanitary condition of many of the schools is unsatisfactory, of some deplorably bad; the schoolroom should, particularly as regards cleanliness, light and ventilation set a high standard for the home, the office and the shop.

Secondly more time should be given to the teaching of hygiene, temperance and physical exercise, the senior girls should receive regular instruction in infant management by a fully trained nurse.

Thirdly the washing of the face and hands should become part of the school routine, and a weekly bath should be taken in school premises, by each child.

Fourthly special schools are urgently needed to deal with children physically and mentally abnormal.

I have pleasure in acknowledging the cordial co-operation of the Secretary for Education.

I am, Ladies and Gentlemen,

Your obedient servant,

JOSEPH CATES.

THE SANITARY CONDITION OF THE SCHOOLS.

At the beginning of 1915 there were in the borough under the control of the Education Committee 38 schools with 83 departments. Seven were provided schools, and 31 non-provided. There was accommodation for 22,968 children, 20,235 being on the roll, with an average attendance of 17,465.

At the end of the year the number on the roll was 20,246, and the average attendance 17,427.

The number of children under five years of age attending school in December was 914.

Reference to the following subjects was made last year in the report of the school medical officers and no material alteration took place during 1915 :—

- Sanitary condition of the schools.
- Arrangements for medical inspection.
- Co-relation of the services.
- Method of inspection.
- Co-operation of school officers.

ATTENDANCE OF PARENTS.

About 21 per cent. of the parents accepted the invitation to be present at the examination of their children.

THE FOLLOWING VISITS WERE MADE DURING THE YEAR

By the school medical officers—

To schools and departments	313
To the homes of children	253

By the school nurses—

To schools and departments.....	2,604
To the homes of children	12,255

THE PRINCIPLE ON WHICH CHILDREN HAVE BEEN SELECTED FOR INSPECTION.

As required by the Board of Education three groups of children have been examined, namely, those entering school, those eight years of age, those twelve years of age, and also a number of special cases.

THE CLASSIFICATION OF THE CHILDREN EXAMINED is set out in table 1, on page 121.

The name of every child suffering from a defect of sufficient importance to be brought to the notice of the parents, is entered on a special card and filed for following up and re-examination. If, at the time of medical inspection, the case appears suitable for immediate attention at the clinic, arrangements are made for the necessary treatment. Every case is followed up by the nurses of the medical officer's staff, who encourage the parents to obtain medical advice or, where the home circumstances warrant it, arrange for attendance at the clinic. After treatment a re-examination is made by the school medical officers on the occasion of their next visit to the school attended by the child.

Table 2 shows the number of serious defects found in systematic and special examinations, and brought to the notice of the parents.

THE AVERAGE TIME PER HEAD OCCUPIED BY INSPECTION.

The average time taken to inspect each child was about five minutes.

RE-EXAMINATION IN THE SCHOOLS BY THE MEDICAL OFFICERS.

On re-visiting a school, all children found defective at the previous visit, including those suffering from decayed teeth and unclean heads, except those at the time excluded owing to infectious disease, are now re-examined.

PERSONAL HISTORY.

Table 3 shows the extent to which the children examined were stated to have suffered from the more common infectious diseases.

HEIGHTS AND WEIGHTS.

The average heights and weights of all the children systematically examined during the year is given in table 4, and as a comparison the figures obtained as a result of the examination of about half-a-million children.

The children are weighed and measured in their ordinary indoor clothing without boots or shoes. As regards the weights some degree of error is bound to arise from the machine used and from the varying amount of clothes worn.

NUTRITION.

In classifying the results of the examination the children were divided into four groups.

- (1) Excellent—children whose nutrition was in every way satisfactory.
- (2) Normal—children whose nutrition was less satisfactory, but with no definite signs of malnutrition.
- (3) Subnormal—children showing some signs of malnutrition.
- (4) Bad—children concerning whose malnutrition there could be no question.

Children coming under the fourth category were followed up and where deficiency of food appeared to be the cause of the defect, a recommendation was made for free meals.

Table 5 shows the percentage of children in the various classes.

For practical purposes the important feature is the large number of children below normal and badly nourished.

CLOTHING AND FOOTGEAR.

Notice was taken at the time of examination of the state of clothing and footgear.

Table 6 shows the percentage of children whose clothing or footgear was insufficient or unsatisfactory.

CLEANLINESS OF THE HEAD.

Three classifications were made :—

- (1) Clean hair having neither nits nor vermin.
- (2) Hair showing nits only.
- (3) Hair containing vermin.

Among 6,467 children systematically examined the results were as shown in tables 7 and 8.

During 1914 a carefully organised systematic campaign was commenced in order to reduce the high percentage of verminous children among those attending the elementary schools. Previously it was customary only to examine the state of the hair of the children due for systematic inspection, namely those entering and leaving school, with the result that the condition of cleanliness of about two-thirds of the school population was unknown.

The prevalence of vermin among children is somewhat analogous to an outbreak of infectious disease. Many cases may be caused by contact with a common source of infection. One child persistently verminous can spread lice throughout a class. It is to be regretted that in some instances the children receive the infection from their parents. Under the St. Helens Corporation Act, 1911, the local sanitary authority has power to cleanse verminous adults, and six persons were compelled to cleanse themselves during the year.

At the beginning of 1914 it was arranged that nurses should examine every three months the person and clothing of every child attending the elementary schools. A notice with suitable instructions is sent to the parents of children whose hair contains vermin or a considerable number of nits, the children so affected are re-examined at the end of a week and unless the condition has been remedied a warning intimation is issued; about seven days later a further re-inspection is carried out and the parents of children still remaining verminous are in due course served with a statutory notice informing them that unless the child is properly cleansed within 24 hours the cleansing will be effected by the local authority. A visit by a nurse is made to a house in cases where compulsory cleansing is likely to be required and disinfection of the house and bedding is carried out.

Table 9 shows the number of notices issued during the year and the number of children cleansed by the local authority, and table 10 figures for the preceding year.

On every hand there is evidence of very great improvement in the condition of the children as regards the presence of vermin; in 1914 it was found necessary to cleanse 81 children in 1915 only one child was compulsory dealt with.

Evidence of body vermin was discovered in 0.2 per cent. of the children systematically examined. Table 11 shows the extent to which the bodies were found to be dirty or verminous.

TEETH.

In the summer of 1914 the local authority appointed a whole time dentist in order that dental inspection and treatment might be undertaken on a more comprehensive scale. Owing to the fact that over 80 per cent. of the children had unsound teeth, it was clearly impossible for one dental surgeon to attempt to treat more than a portion of the cases needing attention. As a beginning therefore it was decided to examine only those

between six and eight years of age. Table 12 shows the extent of the disease found in the children medically examined and also in those inspected by the school dentist.

NOSE AND THROAT.

The defect commonly met with consists of enlargement of the tonsils, and adenoids, frequently associated with mouth breathing. The condition is a serious one likely to lead to far-reaching ill-effects, such as deafness, malformations of the nose and throat, bronchitis, deformity of the chest, and general weakness, with predisposition to infectious disease. It is often stated that the child will "grow out of the condition." To some extent this may be true, but by the time it has occurred incalculable injury will most likely have been done to the physical and mental development of the child.

The treatment of the condition is preventive and curative. Fresh air, breathing exercises, improvement of the health and local applications will in slight cases often effect a cure. For the remainder a simple operation is necessary; it is essential that after-care should be given in order that a proper method of breathing may be acquired, but instruction alone, however well given, is not sufficient; ample food, rest and open-air treatment is required, in a word, attendance at an open-air school.

The percentage of children suffering from defects of the nose and throat is shown in table 13.

CHRONIC NASAL CATARRH.

In many of the infants examined, and in a proportion of the seniors, a considerable amount of rhinitis was present. Few infants possess a pocket handkerchief, and practically none knows how to use it. A course of pocket handkerchief drill throughout the schools would do much to prevent this ailment.

GLANDULAR ENLARGEMENTS.

The lymphatic glands situated about the head and neck not infrequently show signs of enlargements. This is generally due to some chronic infection of the mouth, throat, or scalp.

Treatment must be both local and general; the former includes the removal of the source of infection, decayed teeth, enlarged tonsils, and verminous condition of the scalp. General measures comprise the inculcation of a higher standard of personal cleanliness, and improvements in the hygiene of the home and of the school.

Table 14 shows the extent of the disease among 6,889 children.

EYE DISEASE AND DEFECTIVE VISION.

Disease of the external eye usually takes the form of sore eyelids or inflammation of the conjunctiva or cornea. The more common ailment, sore eyelids, is a condition frequently associated with poverty and neglect. The daily use of a simple ointment, fresh air, and ample food will in the majority of instances, soon effect a cure, yet it is not uncommon to see these cases drag along for months and even years until permanent damage to the sight has resulted.

The prevalence of disease and defects of the eyes in the children examined is set out in tables 15, 16, and 17.

DEAFNESS AND EAR DISCHARGE.

Tables 18 and 19 shows the percentage of children suffering from well marked deafness or ear discharge ; conditions likely to impose a serious hindrance on the educational progress of a child.

Ear discharge is often closely related to deafness. An attack of measles or scarlet fever in a child who suffers from enlarged tonsils and adenoids not unfrequently is the origin of ear discharge which may last for years. The reason for the chronicity of the complaint is two fold: in the first place to effect a cure, removal of the tonsils and adenoids is often necessary, and secondly persistent daily treatment by syringing must be carried out. The disease is a serious one, not only entailing danger to the life of the child, and risk of permanent deafness, but inflicting unnecessary inconvenience upon other children in the class owing to the offensive nature of the discharge ; some cases are definitely infectious.

SPEECH.

A defect of speech was present in certain of the children examined, the usual defect was stammering. The details are given in table 20.

Most cases of defective speech can be improved and many cured by appropriate treatment ; a special class for children suffering from this condition would be likely to yield good results.

MENTAL AND NERVOUS DISEASE.

A record of children found to be suffering from mental defect or disease of the nervous system is given in tables 21 and 22.

HEART AND CIRCULATION.

Of the children inspected, none were found to be suffering from organic disease of the heart, a condition in children is almost always due to

attacks of rheumatism or rheumatic fever. Unfortunately the symptoms are generally insidious, sore throats, "growing pains," headache, and feverishness, frequently overlooked by the parents or treated as a trivial ailment. Close allied to rheumatic fever is chorea, or St. Vitus' dance, a disease equally important as regards the serious effect it may have upon the heart. Children suspected suffering from rheumatism in any of its various manifestations require special care and supervision at school, and are particularly suitable for the attendance at an open air school or similar institution. Other figures are given in table 23.

TUBERCULOSIS.

Among the 6,889 children systematically examined no instance of pulmonary tuberculosis were discovered, and one only had signs suggestive of the disease.

Six children were found to be affected with tuberculosis of the glands, being 0·09 per cent. of those examined.

Of the children systematically inspected, one was suffering from tuberculosis disease of the bones or joints.

Table 24 shows the number of children examined and the percentage of cases of tuberculosis discovered.

The total number of children suffering from tuberculosis known at present to the medical department, is 218. Twenty-eight deaths from tuberculosis in children of school age occurred during the year. It is certain that the extent of the disease among children is as yet unknown.

There is need for a residential institution at which education in a certified school might be provided, so that patients could remain under appropriate treatment for a sufficient period without loss of education.

OTHER DISEASES OF THE LUNGS.

The extent of the diseases of the respiratory organs, discovered amongst the children examined is shown in table 25.

DEFORMITIES.

Tables 26 and 27 give a classification of the children amongst those systematically inspected found to be deformed.

DISEASES OF THE SKIN.

Table 28 gives an analysis of the diseases of the skin, discovered during the inspection of 6,889 children. Itch has become much more common since the outbreak of war.

Although a systematic 'class to class' examination of all the children attending the elementary schools is now being carried out by the nurses four times a year, very few cases of ringworm have been found.

INFECTIOUS DISEASE.

Table 29 sets out the infectious disease discovered amongst children actually attending school.

A classification of certain other diseases found among the children examined is given in table 30.

INSPECTION CLINIC.

An inspection clinic has been held in the medical officer's department at the town hall since 1906, and an increasing number of cases has been seen there each year, in fact, the work of the inspection clinic is growing to such an extent that the necessity of providing further accommodation is becoming urgent. Children attend for examination on Wednesdays, from 3-0 to 5-30, and on Saturdays from 9-0 to 11. Some overcrowding not infrequently occurs, but it is attempted to prevent this as much as possible by giving a specified time for the attendance of certain children. This arrangement, however, although desirable, can not obviate the necessity of a large airy waiting room, since school teachers, attendance officers and parents, knowing that the clinic is open at stated periods, send up children concerning whose condition they wish for information.

During 1915, 1,369 children were seen at the clinic, a total of 3,261 attendances being made. The children were sent to the clinic by the following agencies :—

School Attendance Officers.....	201
Teachers	179
Medical Officer's Department	124
Parents	95
Medical Practitioners	56
Children's Care Committee	2
Fresh Air Fund	42
Other Agency	714

Table 50 shows the conditions from which the children were suffering.

Of the children, 166, or 12·1 per cent were not receiving medical attention. The remainder were being treated as follows :—

By private practitioners	176
By hospitals	11
By parents	141
By tuberculosis dispensary.....	46
By staff at the school clinic	875

THE TREATMENT CLINIC.

The Clinic is situated in Claughton Street. The diseases treated are those affecting the eyes, ears, nose and throat, and teeth ; ringworm of the scalp by means of X-rays and also minor ailments.

The treatment of the children at the clinic is generally carried out by private practitioners appointed by the Local Authority. There is a whole time school dentist. Minor ailments, however, are treated by nurses acting under the directions of the school medical officer. The supervision of the medical, surgical and dental work done at the clinic is in the hands of the school medical officer who is directly responsible to the Committee. The medical practitioners are part-time officers, each attending at the clinic for one half-day-per week.

It was decided that children suffering from disease or defect should be classified into three groups according to the financial circumstances of the home. Cases found to be 'necessitous' are treated free of cost. A fee not exceeding two shillings is recovered from the parents of those 'partially necessitous' ; while children that are 'non-necessitous' are as a rule not accepted for treatment. Children found on inspection to be defective and obviously necessitous or partially necessitous are sent direct to the clinic, and in this way very little delay occurs between inspection and treatment.

The premises comprising the clinic consists of, on the ground floor a waiting room, a room for the clerk dispenser, a consulting room and room for the treatment of eye defects, and a small room fitted up as a surgery for minor ailments. On the first floor are a dental room, an operating room, a recovery room and two rooms given over for the X-ray treatment of ringworm ; part of the same building, but distinct from the school clinic, is used as a tuberculosis dispensary. The treatment of minor ailments is carried out daily from 9 to 12, of dental cases from 9-30 to 4-30. One sitting of two and a half hours per week is devoted to each of the other diseases.

During the year under consideration, the number of cases dealt with is given in table 51.

Table 52 shows the nature and extent of the dental treatment.

FOLLOWING UP AND RE-EXAMINATION.

The following up of children discovered at the time of medical inspection to be suffering from diseases or defect is entirely carried out by nurses in the medical officer's department and the re-examination of the cases treated is performed by the assistant medical officers. The various duties usually performed by the health visitors and school nurses are so allocated that by placing each nurse in charge of a district a considerable amount of overlapping is avoided and the saving of time thus effected allows a more comprehensive system of after-care to be adopted.

The following table shows the rapid extension which has taken place in the work of home visitation of defects.

YEAR.	1909	1910	1911	1912	1913	1914	1915
Number of home visits by nurses to follow up cases of defect or disease.....	2,623	2,409	3,248	2,737	4,548	7,363	12,255

Experience has confirmed the opinion expressed in my first annual report that the system of staff specialisation for example, the whole time employment of a nurse at one branch of public health work—tuberculosis visitation, medical inspection of school children, or the supervision of mid-wives, is costly, unworkable and inefficient.

ACTION TO DETECT AND PREVENT THE SPREAD OF INFECTIOUS DISEASE.

The steps taken to detect and prevent the spread of infectious disease are materially the same as those described in the annual report for the year 1914 and need not now be again re-stated. The number of notifications received from teachers during the year is given in table 53.

No school or department was closed during 1915 on account of infectious disease.

Children excluded from school by the medical officer are not permitted to return until a re-admission notice has been issued by him, except in the case of a few children who are excluded by him for a definite period.

RE-EXAMINATION.

During 1915, 1,182 children were re-examined in school by the medical officers, the defects of 721 were found to have been remedied, 105 improved, 156 were changed, and 192 were untreated.

SUMMARY OF TREATMENT.

Table 54 shows that over 75 per cent. of the children found defective, excluding those suffering from decayed teeth, have received treatment during the year. This is an extremely satisfactory figure, reflecting considerable credit on the staff of the medical officer's department.

ADMINISTRATION OF THE PROVISION OF MEALS ACT.

The provisions of this Act and also those of the Acts relating to medical inspection and treatment are administered by the Central Children's Care Committee. Necessitous cases are reported to the district care committees by head teachers and others. Inquiries are then made concerning the circumstances of the parents. If the children cannot be properly fed by the parents owing to unfavourable home conditions, they are supplied with meals at the School Feeding Centres.

Breakfasts and dinners are provided at three centres, namely, Windle Pilkington, Merton Bank, and Robins Lane. The meals are prepared at the centres, and are served by paid attendants. The dietary consists of :—

Breakfasts : Alternate meals of

- (a) Cocoa with milk and sugar. Bread and butter, with syrup or jam.
- (b) Oatmeal porridge with milk and sugar or syrup ; followed by bread and butter.

Dinners : A two-course dinner is supplied, the courses being selected from the following list :

- | | |
|----------------|--------------------------------------|
| First Course. | (1). Pea soup or lentil soup. |
| | (2). Scotch broth. |
| | (3). Irish stew. |
| | (4). Stewed beef with haricot beans. |
| | (5). Meat and potato pie. |
| Second course. | (1). Bread pudding. |
| | (2). Suet dumpling with syrup. |
| | (3). Boiled rice with milk. |

Water and bread are provided in addition.

The total number of meals given during the year was 36,355.

The average total cost per meal is :—Breakfasts, 2·73 pence ; Dinners, 3·26 pence ; while the average cost per meal for food only is :—Breakfasts, 1·51 pence ; Dinners, 2·09 pence.

AN ACCOUNT OF MISCELLANEOUS WORK.

At the request of the Education Committee, 77 scholarship candidates were medically examined, and under regulations made by the Committee relating to teachers absent from duty, medical certificates were granted on 29 occasions.

The clerical work arising out of medical inspection and treatment is of necessity very heavy. During 1915, 8,875 exclusion notices, 12,245 re-admission notices, 2,714 preliminary notices, 145 final notices, 2,000 dental notices, 18,217 miscellaneous notices and 930 letters were sent out from the medical officer's department, and the compilation of figures for this report involved on the clerical staff a considerable amount of unpaid work outside the usual office hours.

TEACHING OF HYGIENE AND TEMPERANCE.

No general scheme for the teaching of these subjects has been adopted in the borough. In some of the schools, however, the work is performed by individual teachers. Physical and breathing exercises are carried out in each school. No arrangements have yet been made for open-air schools, school camps, or similar institutions. The consideration of a comprehensive scheme, has been deferred by the Local Authority.

WORK OF THE CHILDREN'S CARE COMMITTEE.

A District Care Committee composed of members of the Education Committee, teachers, and those particularly interested in the work is attached to each school for the purpose of exercising supervision over appropriate cases. At the time of their inception it was thought that it might be feasible for the greater part of the following up of medical defects to be carried out by the District Committees. The re-organisation of the duties of the nurses in the medical officer's department made it possible somewhat to lighten the load of the Committees, who became free to devote more time to other work no less important. Advice is offered to parents concerning suitable employment for children leaving school, after care is given to mentally and physically defective children, and those ill-clad and underfed. In these and various other directions the Committees willingly perform a very valuable service in promoting the health and comfort of a proportion of the children attending the elementary schools in the borough.

ACCOUNT OF CHILDREN MENTALLY AND PHYSICALLY DEFECTIVE.

Table 55, on page 144, gives a summary of children mentally or physically defective. No further action was taken during the year as regards these classes of children.

COWLEY SECONDARY SCHOOLS.

In 1915 arrangements were made for a routine annual inspection of scholars attending the Cowley Secondary Schools. The results of the first inspection given in tables 31—49 show that it was high time regular medical examination was instituted. Contrary to some opinions publicly expressed the innovation was favourably accepted by the parents, although in a proportion of cases treatment has not yet been obtained.

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„ 26. Deformities	132		
„ 27. Rickets			
„ 28. Skin	133		
„ 29. Infectious disease			
„ 30. Other diseases	134		

Table 1.

Number of Children inspected 1st January, 1915, to 31st December, 1915.

AGE ...	ENTRANTS.				INTERMEDIATES.			LEAVERS.			TOTAL.
	4	5	6	Total.	7	8	Total.	12	13	Total.	
Boys	327	681	170	1,178	31	1,015	1,046	957	75	1,032	3,256
Girls	350	709	170	1,229	38	989	1,027	889	66	955	3,211
	677	1,390	340	2,407	69	2,004	2,073	1,846	141	1,987	6,467

Special Cases..... 422	Re-examination..... 1,182
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Table 2.

The defects in respect of which directions were given for treatment.

	Routine Cases.	Per-centage.	Special Cases.	Per-centage.
Number of children examined	6,467	..	422	..
Number recommended for treatment	1,350	37·4	223	52·8
<i>Defects requiring treatment—</i>				
Enlarged tonsils	258	3·9	39	9·2
Adenoids.....	25	0·4	10	2·3
Other throat and nose defects	1	0·01	4	·9
Defective eyesight	220	3·4	103	24·4
Squint	22	0·3	9	2·1
External eye disease	18	0·25	13	3·1
Discharging ears	15	0·2	11	2·6
Deafness	12	0·2	14	3·3
Heart Disease	3	0·04	..	..
Anæmia	1	0·01	2	0·5
Bronchitis.....	8	0·1	3	0·7
Suspected phthisis	1	0·01	..	..
Diseases of nervous system .....	..	..	..	..
Tuberculosis .....	..	..	..	..
Ringworm	1	0·01	1	0·2
Badly fitting and unsuitable spectacles..	12	0·2	..	..
Decayed Teeth	48	0·8	..	..
Other diseases or defects	4	0·06	4	0·9
	649	9·89	213	50·2

Table 3.
Personal History.

	Number of cases inquired into.	Number of cases which have not had an infectious disease.	PREVIOUS ILLNESS.					
			Measles	Whoop- ing Cough	Chicken Pox	Scarlet Fever	Diph- theria	Other Diseases
Entrants	2,407	825	1394	575	339	130	29	197
Percentage		34·2	57·9	23·9	14·1	5·4	1·2	8·2
Intermediates ...	2,073	302	1,650	731	451	286	61	269
Percentage		14·5	79·6	35·2	21·7	13·8	2·9	12·9
Leavers	1,987	232	1,618	735	469	352	79	315
Percentage		11·7	81·4	36·9	23·6	17·7	3·9	15·8

Table 4.
Average height and weight.

		St. Helens.		Average Standard of Anthropometric Committee.	
		Height in inches.	Weight in pounds.	Height in inches.	Weight in pounds.
4 years.	Boys	38·74	36·82	38·46	37·3
	Girls	38·49	35·70	38·26	36·1
5 years.	Boys	40·70	30·01	41·00	39·9
	Girls	40·07	37·89	40·80	39·6
6 years	Boys	41·59	41·77	44·00	44·4
	Girls	44·56	39·83	42·80	41·7
7 years.	Boys	44·66	46·88	45·90	49·7
	Girls	43·57	42·91	44·40	47·5
8 years	Boys	47·21	50·40	47·05	54·9
	Girls	46·46	50·02	46·60	52·2
12 years	Boys	53·81	67·55	55·00	76·7
	Girls	53·82	69·99	55·60	76·4
13 years	Boys	55·08	75·06	56·90	82·6
	Girls	54·58	74·07	57·70	87·2

Table 5.
Nutrition.

	Number of children examined.	EXCELLENT.				NORMAL.				BELOW NORMAL				BAD.			
		Boys.	Girls.	Total	per cent.	Boys.	Girls.	Total.	Per cent.	Boys.	Girls.	Total	Per cent.	Boys.	Girls.	Total	Per cent.
Entrants	2,407	2	3	5	0·2	1,066	1,145	2,211	91·9	99	75	174	7·2	11	6	17	0·7
Inter- mediates	2,073	..	..	..	..	922	912	1,834	88·4	114	102	216	10·4	10	13	23	1·2
Leavers	1,987	3	1	4	0·2	932	840	1,772	89·2	89	105	194	9·8	8	9	17	0·8

Table 6.
Clothing and Footgear.

	ENTRANTS. Number examined— 2,407.				INTERMEDIATES. Number examined— 2,073.				LEAVERS. Number examined— 1,987.			
	Boys	Girls	Total	Per Cent.	Boys	Girls	Total	Per Cent.	Boys	Girls	Total	Per Cent.
Clothing satisfactory	1,062	1,172	2,234	92.8	931	978	1,909	92.1	936	921	1,857	93.4
Unsatisfactory	134	62	196	8.2	135	57	192	9.2	111	41	152	7.6
Footgear-Satisfactory	1,157	1,199	2,356	97.9	1,016	1,020	2,036	98.2	1,012	942	1,954	98.3
Unsatisfactory	21	30	51	2.1	30	7	37	1.8	20	13	33	1.7

Table 7.
Cleanliness of the head.

ENTRANTS. Number examined—2,407.					INTERMEDIATES. Number examined— 2,073.				LEAVERS. Number examined— 1,987.			
	Boys	Girls	Total	Per Cent	Boys	Girls	Total	Per Cent	Boys	Girls	Total	Per Cent
Clean	1,146	1,180	2,326	96.6	1,019	917	1,936	93.4	1,004	878	1,882	94.7
Nits only	37	326	363	15.1	35	403	438	21.1	30	415	445	22.4
Pediculi.....	11	22	33	1.3	11	24	35	1.7	5	19	24	1.2

Table II.

Cleanliness of the body.

	ENTRANTS. Number examined— 2,407.				INTERMEDIATES. Number examined— 2,073.				LEAVERS. Number examined— 1,987.			
	Boys	Girls	Total	Per Cent.	Boys	Girls	Total	Per Cent.	Boys	Girls	Total	Per Cent.
Clean	1,156	1,205	2,361	98.1	1,004	1,002	2,006	96.7	999	935	1,934	97.3
Dirty	6	7	13	0.5	27	8	35	1.7	12	8	20	1.01
Pediculi present....	1	3	4	0.2	4	2	6	0.3	1	2	3	0.2

Number of children badly bitten by fleas or vermin ..	92	108
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Table I2.

Teeth.

	ENTRANTS. Number examined— 2,407.				INTERMEDIATES. Number examined— 2,073.				LEAVERS. Number examined— 1,987.			
	Boys	Girls	Total	Per Cent.	Boys	Girls	Total	Per Cent.	Boys	Girls	Total	Per Cent.
Sound	169	205	374	15.5	227	225	452	21.8	200	206	406	20.4
Less than 4 decayed..	682	712	1,394	57.9	544	572	1,116	53.8	675	605	1,280	64.4
More than 4 decayed	327	309	636	26.4	275	230	505	24.4	157	143	300	15.1
Septic gums	3	3	6	.3	—	—	—	—	—	1	1	0.1

Table 17.

Vision.

	INTERMEDIATES.				LEAVERS.				SPECIAL CASES.			
	Boys	Girls	Total	Per Cent	Boys	Girls	Total	Per cent	Boys	Girls	Total	Per cent
Number examined	1,015	989	2,004	—	1,032	955	1,987	—	224	198	422	—
6/6 each eye (normal vision.	778	741	1,519	75.7	865	764	1,629	81.9	181	138	319	75.6
6/6 R.	43	48	91	24.3	39	39	78	18.1	2	5	7	24.4
6/6 L.	45	26	71		29	24	53		2	2	4	
6/9 R.	78	93	171		44	52	96		7	21	28	
6/9 L.	86	96	182		43	57	100		6	19	25	
6/12 R.	41	47	88		25	35	60		10	15	25	
6/12 L.	42	41	83		30	35	65		9	20	29	
6/18 R.	35	31	66		25	25	50		10	5	15	
6/18 L.	34	33	67		25	29	54		9	2	11	
6/24 R.	15	11	26		12	13	25		6	4	10	
6/24 L.	16	24	40		13	17	30		8	4	12	
6/36 R.	17	10	27	100	10	14	24	100	2	6	8	100
6/36 L.	8	15	23		15	17	32		4	3	7	
6/60 R.	5	5	10		5	5	10		3	1	4	
6/60 L.	3	8	11		6	4	10		3	4	7	
6/0 R.	3	3	6		7	8	15		3	4	7	
6/0 L.	3	5	8		6	8	14		2	5	7	

Table 18.

Hearing.

	INTERMEDIATES.				LEAVERS.				SPECIAL CASES.			
	Boys	Girls	Total	Per cent	Boys	Girls	Total	Per cent	Boys	Girls	Total	Per cent
Number examined	1,015	989	2,004		1,032	955	1,987		224	118	422	
20-ft. each ear (Nor. hearing)	1,010	981	1,991	99.3	1,025	947	1,972	99.2	223	198	421	99.8
20-ft. R.	1	2	3	.7	2	2	4	.8	..	..	..	.2
20-ft. L. . . . .	..	1	1		1	3	4		..	..	..
10-ft. R.	4	4	8		4	5	9		..	..	..
10-ft. L.	5	5	10		4	4	8		..	..	..
5-ft. R. . . . .	..	2	2	100	1	1	2	100	1	..	1	100
5-ft. L. . . . .	..	2	2		2	1	3		1	..	1	

Table 19.

	ENTRANTS. Number examined— 2,407.				INTERMEDIATES. Number examined— 2,073.				LEAVERS. Number examined— 1,987.				SPECIAL CASES. Number examined— 422.			
	Boys.	Girls.	Total.	cent. Per	Boys.	Girls.	Total.	Per cent.	Boys.	Girls.	Total.	Per cent.	Boys.	Girls.	Total.	Per cent.
No Diseases	1,155	1,203	2,358	97·9	1,012	1,003	2,015	97·2	1,001	934	1,935	97·4	206	188	394	93·3
Obstruction R.	6	9	15	·6	16	10	26	1·3	9	7	16	·8	2	4	6	1·5
Obstruction L.	7	10	17	·7	12	8	20	·9	14	4	18	·9	7	1	8	1·9
Otorrhoea R.	2	2	4	·2	3	1	4	·2	2	5	7	·3	3	..	3	·7
Otorrhoea L.	6	4	10	·4	2	4	6	·3	5	3	8	·4	5	3	8	1·9
Other Diseases	2	1	3	·2	1	1	2	·1	1	2	3	·2	1	2	3	·7

Table 20.
Speech.

	ENTRANTS.				INTERMEDIATES.				LEAVERS.				SPECIAL CASES.			
	Number examined— 2,407.				Number examined— 2,073.				Number examined— 1,987.				Number examined— 422.			
	Boys.	Girls.	Total.	cent. Per	Boys.	Girls.	Total.	Per cent.	Boys.	Girls.	Total.	Per cent.	Boys.	Girls.	Total.	Per cent.
No defect	1,177	1,226	2,403	99.85	1,043	1,026	2,069	99.8	1,024	954	1,978	99.55	224	198	422	100
Defective Articulation ..	1	3	4	.15	3	1	4	.2	7	1	8	.4	..	..	..	..
Stammering .....	..	..	..	..	..	..	..	..	1	..	1	.05	..	..	..	..

Table 21.
Mental Condition.

	ENTRANTS.				INTERMEDIATES.				LEAVERS.				SPECIAL CASES.			
	Number examined— 2,407.				Number examined— 2,073.				Number examined— 1,987.				Number examined— 422.			
	Boys.	Girls.	Total.	Per cent.	Boys.	Girls.	Total.	Per cent.	Boys.	Girls.	Total.	Per cent.	Boys.	Girls.	Total.	Per cent.
No Disease	1,175	1,226	2,401	99·7	1,041	1,022	2,063	99·5	1,030	950	1,980	99·65	223	198	421	99·8
Dull or backward	3	3	6	·3	5	5	10	·5	1	5	6	·3	1	..	1	·2
Mentally deficient .....	..	..	..	..	..	..	..	..	1	..	1	·05	..	..	..	·0

Table 22.
Nervous System.

	ENTRANTS.				INTERMEDIATES.				LEAVERS.				SPECIAL CASES.			
	Number examined— 2,407.				Number examined— 2,073.				Number examined— 1,987.				Number examined— 422.			
	Boys.	Girls.	Total.	Per cent.	Boys.	Girls.	Total.	Per cent.	Boys.	Girls.	Total.	Per cent.	Boys.	Girls.	Total.	Per cent.
No Disease	1,177	1,228	2,405	99·92	1,041	1,027	2,068	99·75	1,032	955	1,987	100	224	198	422	100
Epilepsy .....	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Chorea.....	..	..	..	..	1	..	1	·05	..	..	..	..	..	..	..	..
Other Diseases	1	1	2	·08	4	..	4	·2	..	..	..	..	..	..	..	..

Table 25.
Lungs.

	ENTRANTS.				INTERMEDIATES.				LEAVERS.				SPECIAL CASES.			
	Number examined— 2,407.				Number examined— 2,073.				Number examined— 1,987.				Number examined— 422.			
	Boys.	Girls.	Total.	Per cent.	Boys.	Girls.	Total.	Per cent.	Boys.	Girls.	Total.	Per cent.	Boys.	Girls.	Total.	Per cent.
No Disease	1,111	1,142	2,253	93·6	1,014	984	1,998	96·4	1,022	934	1,956	98·4	221	198	419	99·3
Bronchitis.....	66	84	150	6·2	30	42	72	3·4	9	21	30	1·5	3	..	3	·7
Tuberculosis .....	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Tuberculosis suspected..	..	1	1	·05	..	..	..	..	..	..	..	..	..	..	..	..
Other Diseases	1	2	3	·15	2	1	3	·2	1	..	1	·1	..	..	..	..

Table 26.

	ENTRANTS.				INTERMEDIATES.				LEAVERS.				SPECIAL CASES.			
	Number examined— 2,407.				Number examined— 2,073.				Number examined— 1,987.				Number examined— 422.			
	Boys.	Girls.	Total.	Per cent.	Boys.	Girls.	Total.	Per cent.	Boys.	Girls.	Total.	Per cent.	Boys.	Girls.	Total.	Per cent.
No deformity	1,178	1,225	2,403	99·9	1,044	1,026	2,073	99·9	1,029	5·1	1,980	99·6	224	198	422	100
Deformity present .....	..	4	4	·1	2	1	3	·1	3	4	7	4	..	..	..	..

Table 27.
Rickets.

	ENTRANTS.				INTERMEDIATES.				LEAVERS.				SPECIAL CASES.			
	Number examined— 2,407.				Number examined— 2,073.				Number examined— 1,987.				Number examined— 422.			
	Boys.	Girls.	Total.	Per cent.	Boys.	Girls.	Total.	Per cent.	Boys.	Girls.	Total.	Per cent.	Boys.	Girls.	Total.	Per cent.
No disease	1,171	1,226	2,397	99.5	1,037	1,024	2,061	99.4	1,024	952	1,976	99.4	223	197	420	99.5
Slight	6	3	9	.4	9	3	12	.6	8	3	11	.6	..	1	1	.25
Marked	1	..	1	.1	..	..	..	..	..	..	..	..	1	..	1	.25

Table 28.
Skin.

	ENTRANTS.				INTERMEDIATES.				LEAVERS.				SPECIAL CASES.			
	Number examined— 2,407.				Number examined— 2,073.				Number examined— 1,987.				Number examined— 422.			
	Boys.	Girls.	Total.	Per cent.	Boys.	Girls.	Total.	Per cent.	Boys.	Girls.	Total.	Per cent.	Boys.	Girls.	Total.	Per cent.
No disease	1,124	1,192	2,316	96.2	999	1,000	1,999	96.5	1,012	945	1,957	98.5	219	193	412	97.6
Ringworm, body	1	..	1	.04	1	..	1	.05	..	..	..	..	..	..	..	..
Ringworm, scalp .....	..	..	..	..	2	..	2	.1	..	..	..	..	1	..	1	.25
Impetigo	29	18	47	1.95	21	15	36	1.7	8	2	10	.5	1	2	3	.7
Scabies	2	7	9	.37	5	3	8	.35	1	..	1	.05	..	1	1	.25
Other Diseases	22	12	34	1.44	18	9	27	1.3	11	8	19	.95	3	2	5	1.2

Table 29.
Infectious Diseases.

	ENTRANTS.	INTERMEDIATES.	LEAVERS.
Whooping Cough....	1	—	—

Table 30.
Other Diseases.

Old scar on forehead	1	Scar on eye	2
Abscess on scalp	1	Old scar on chest	3
Large cicatrix from scald on chest	1	Pigeon chest	1
Lupus on face	2	Old scar on neck	7
Hernia	3	Scar on head	1
Double nuniea.....	2	Enlarged thyroids	1
Weak legs	1	Trac scar from diptheria	1
End of two fingers taken off	1	Neonatorium of Urine.....	1
Spinal muscular from short legs..	1	Old infantile paralysis, drop legs on walking.....	1
Blister on nose	1	Tapeworms	1
High palate	1	Burn scar on face	1
Sore on lip	1		

COWLEY SECONDARY SCHOOL.

Table 31.

Number of children examined.

Age	5	6	7	8	9	10	11	12	13	14	15	16	17	Tot'l
Boys	—	—	—	—	3	11	11	18	22	14	18	5	3	105
Girls	5	7	9	12	10	16	31	35	29	25	41	14	5	239
	5	7	9	12	13	27	42	53	51	39	59	19	8	344

Table 32.

The defects in respect of which direction were given for Treatment.

Number of children examined	344	Per cent.
Number recommended for treatment	60	17·4
<i>Defects requiring treatment :—</i>		
Squint	1	·3
Defective vision	21	6·1
Enlarged Tonsils	17	4·9
Adenoids	2	·6
Decayed teeth	20	4·8
Badly fitting and unsuitable glasses	5	1·4
	66	18·1

Table 33.

Personal History.

	Number of cases inquired into.	Number not had an infectious disease.	PREVIOUS ILLNESSES.					
			Measles.	Whoop- ing Cough.	Chicken Pox.	Scarlet Fever.	Diph- theria.	Other Diseases
Boys	105	13	76	27	28	33	9	37
„ Percentage	—	12·4	72·4	25·7	26·6	31·4	8·6	35·2
Girls	239	92	122	44	33	42	9	42
„ Percentage	—	38·5	51·0	18·4	13·8	17·5	3·7	17·5

Table 34.

Nutrition.

	NUMBER EXAMINED.	EXCELLENT.	NORMAL.	BELOW NORMAL.	BAD.
Boys	105	1	104	—	—
Girls	239	—	239	—	—
Total	344	1	343	—	—
Percentage ..	—	·3	99·7	—	—

Table 35.
Clothing and Footgear.

	Number Examined.	CLOTHING.		FOOTGEAR.	
		Satisfactory.	Un- satisfactory.	Satisfactory.	Un- satisfactory.
Boys	105	105	—	105	—
Girls	239	239	—	239	—
Total	344	344	—	344	—
Per cent. ...	—	100·0	—	100·0	—

Table 36.
Cleanliness of the Head and Body.

	Number Exam'd.	HEAD.				BODY.			
		Clean.	Nits Dirty.	Pediculi	Dirty.	Clean.	Dirty.	Bitten.	Pediculi
Boys	105	105	—	—	—	105	—	—	—
Girls	239	231	7	1	—	239	—	—	—
Total	344	336	7	1	—	344	—	—	—
Per cent.	—	97·7	2·03	·27	—	100·0	—	—	—

Table 37.
Teeth.

	Number Examined.	Sound.	Less than 4 decayed.	More than 4 decayed.	Sepsis.
Boys.	105	52	48	5	—
Girls	239	111	102	26	—
Total	344	163	150	31	—
Per cent. ...	—	47·3	43·6	9·1	—

Table 38.
Nose and Throat.

	Number Exam'd.	No Defect.	Mouth breather.	TONSILS.		ADENOIDS.	
				Slightly Enlarged.	Much Enlarged.	Slight.	Marked.
Boys	105	95	2	6	2	—	—
Girls	239	195	7	36	—	3	—
Total	344	290	9	42	2	3	—
Per cent.	—	84·3	2·6	12·2	·6	·9	—

Table 39.

Glandular Enlargements and Squint.

	Number Examined.	GLANDULAR ENLARGEMENTS.			SQUINT.	
		No Disease.	Enlarged Glands.	Gland Scars.	No Defect.	Defect Present.
Boys	105	88	17	—	104	1
Girls	239	235	4	—	239	—
Total	344	323	21	—	343	—
Per cent. .	—	93.9	6.1	—	99.7	.3

Table 40.

External Eye Disease.

	Number Examined.	No Disease.	Bleph- arites.	Conjunc- tivitis.	Corneal Opacity.	Other Diseases.
Boys	105	104	—	—	—	1
Girls	239	235	3	—	—	1
Total	344	339	3	—	—	2
Per cent. .	—	98.5	.9	—	—	.6

Table 41.
Vision and Hearing.

Number examined .		Boys. 105	Girls. 239	Total. 344	Per Cent. ..	Number examined		Boys. 105	Girls. 239	Total. 344	Per Cent. ..
6/6 each eye (normal vision)		83	201	284	82.5	6/6 each eye (normal vision)		105	238	443	99.8
6/6	R.	6	7	13		20 feet	R.2
	L.	3	4	7			L. . . . .	..	..	..
6/9	R.	1	6	7		10 feet	R. . . . .	..	1	1
	L.	5	4	9			L. . . . .	..	1	1
6/12	R.	5	5	10		5 feet	R. . . . .	..	..	..
	L.	4	7	11			L. . . . .	..	..	..
6/18	R.	5	4	9							
	L.	5	4	9							
6/24	R.	—	2	2							
	L.	2	2	4	17.5						100
6/36	R.	1	5	6							
	L. . . . .	..	8	8						
6/60	R. . . . .	..	4	4						
	L.	2	3	5							
6/0	R.	4	5	9							
	L.	1	6	7	100						

Table 42.
Ear Disease.

	Number examined.	No Disease.	OBSTRUCTION.		OTORRHOEA.		Other Disease.
			Right.	Left.	Right.	Left.	
Boys	105	104	1	..	..	..	..
Girls	239	237	2	..	..	..	..
Total	344	341	3	..	..	..	..
Per cent....	..	99.1	.9	..	..	..	..

Table 43.
Speech and Mental condition.

	Number examined	SPEECH.			MENTAL CONDITION.		
		No Defect.	Defective Articulation.	Stammer- ing.	Normal.	Backward or Dull.	Mentally Deficient.
Boys	105	102	2	1	104	1	..
Girls	239	239	..	..	238	1	..
Total	344	341	2	1	342	2	..
Per cent. .		99.1	.6	.3	99.4	.6	..

Table 44.
Nervous System and Heart and Circulation.

	Number exam'd.	NERVOUS SYSTEM.				MENTAL CONDITION.				
		No Disease.	Epil- epsy.	Chorea.	Other Diseases	No Disease.	Organic Disease.	Func- tional Disease.	Anæmia	Other Disease.
Boys	105	105	..	..	..	94	..	..	9	2
Girls	239	239	..	..	..	231	..	..	3	5
Total	344	344	..	..	..	325	..	..	12	7
Per cent. .		100.0	..	..	..	63.1	..	..	34.87	2.03

Table 45
Tuberculosis.

	Number examined.	PULMONARY.	NON-PULMONARY.		
		Lungs.	Glandular.	Bones & Joints.	Other forms
Boys	105	..	..	..	..
Girls	239	..	1	..	..
Total	344	..	1	..	..
Per cent. .		..	.3	..	..

Table 46.

Lungs.

	Number Examined.	No Disease.	Bronchitis.	Tuber- culosis.	Tuber- culosis Suspected.	Other Diseases.
Boys	105	104	1	..	..	..
Girls	239	235	3	..	1	..
Total	344	339	4	..	1	..
Per cent. .		98.5	1.2	..	.3	..

Table 47.

Deformities and Rickets.

	Number Examined.	DEFORMITIES.		RICKETS.		
		No Deformity.	Deformity Present.	No Disease.	Slight.	
Boys	105	105	..	105	..	..
Girls	239	239	..	239	..	..
Total	344	344	..	344	..	..
Per cent. .		100.0	..	100.0	..	..

Table 48.

Skin.

	Number Examined.	No Disease.	RINGWORM.		Impetigo	Scabies.	Other Diseases
			Body.	Head.			
Boys	105	105	..	..	..	..	..
Girls	239	239	..	..	..	..	..
Total	344	344	..	..	..	..	..
Per cent. .		100.0	..	..	..	..	..

Table 49.

Other Diseases.

Boils on Neck	1
Old Scar on Neck	2

Table 50.

Classification of defects among children attending the inspection clinic.

HEAD.		MENTAL CONDITIONS.	
Sores	3	Mentally defective.....	1
Other diseases	1	Dull	1
SKIN.		HEART.	
Ringworm, scalp	63	Anæmia	18
Ringworm, body	52	Others	3
Scabies	168	LUNGS.	
Impetigo	62	Bronchitis	44
Sores	8	Suspected phthisis.....	6
Psoriasis	7	Other diseases	9
Eczema	13	NERVOUS SYSTEM.	
Other diseases	2	Epilepsy	2
THROAT AND NOSE DEFECTS.		Chorea	39
Enlarged tonsils and		Paralysis	2
adenoids	49	Others	3
Enlarged tonsils.....	111	TUBERCULOSIS.	
Adenoids	25	Phthisis	4
Other diseases	20	Glands	3
GLANDS.		Bones and joints	2
Enlarged	21	Skin	1
Abscess	3	RICKETS.....	
EYES.		KIDNEY DISEASE.....	
Conjunctivitis	21	GENERAL DEBILITY.....	
Blepharitis	36	RHEUMATISM.....	
Ulcers.....	9	OTHER DISEASES	
Squint	38		
Defective vision	167		
Other diseases	4		
EARS.			
Discharge	17		
Deafness	22		
Other diseases	3		

Table 51.

Classification of cases treated at the School Clinic during 1915.

	Treatment carried on from previous year.	New Cases.	Treatment completed.	Treatment not completed at the end of the year.	Partially treated.
Eye defects	20	440	449	11	..
Nose and throat defects	9	413	421	1	..
Diseases of the teeth	17	2,380	2,397	..	..
Ringworm of scalp	10	20	19	1	..
Eczema of scalp.....	1	3	4	..	..
Minor ailments	27	483	446	64	..

Table 52.

Dental inspection and treatment.

AGES	Number inspected in schools		Number requiring treatment		Number treated at school clinic		Extraction		Anæsthetics		Fillings		Mis- cellaneous
	Boys	Girls	Boys	Girls	Boys	Girls	Tempor- ary	Per- manent	Local	Nitrous Oxide	Amalgam	Cement	
5 and under 6.	47	56	381	..	59	44	2	5	..
6 " 7.	510	472	4,868	..	852	130	304	31	21
7 " 8.	531	478	3,550	57	908	101	574	48	9
8 " 9.	48	37	267	69	55	30	36	6	1
9 " 10.	20	24	176	118	32	12	1	..	..
10 " 11.	20	13	94	163	20	13	2	3	..
11 " 12.	19	20	76	89	24	15	5	11	3
12 " 13.	60	42	38	141	77	25	11	15	10
	1,255	1,142	9,450	637	2,027	370	935	119	44

Table 53.

Notifications by teachers of infectious and contagious disease in school children during 1915.

Measles	1879
Mumps.....	86
Whooping cough	310
Chicken-pox	220
Scarlet fever	76
Diphtheria	38
Ringworm	65
Scabies	22
Other diseases.....	493
	3,189

Table 54.

Treatment of Defects of Children during 1915.

CONDITIONS.	No. of defects found for which Treatment was considered necessary.			No. of defects for which no report is available.	No. of defects Treated.	Results of Treatment.			No. of defects not treated.	Per cent. of defects treated.
	From previous year	New Cases	Total			Remedied.	Improved.	Unchanged.		
Nose and Throat	162	660	822	37	580	549	23	8	205	70·6
External Eye disease .	26	33	59	1	58	38	15	5	—	98·3
Ear disease	55	35	90	7	73	40	23	10	10	81·1
*Teeth.....	..	..	..	..	..	..	..	..	..	..
Heart and Circulation..	3	6	9	1	7	..	5	2	1	77·7
Lungs	6	16	22	..	21	13	7	1	1	95·4
Nervous System	5	..	5	2	2	..	2	1	..	40·0
Skin	9	26	35	..	34	32	1	1	1	97·2
Rickets	3	1	4	..	1	1	..	..	3	25·0
Deformities	3	2	5	1	2	2	..	..	2	40·0
Tuberculosis—										
Pulmonary	5	2	7	2	5	3	..	2	..	71·4
Non Pulmonary ..	5	1	6	..	6	1	1	4	..	100·0
Speech.....	..	..	..	..	..	..	..	..	..	..
Mental Condition.....	..	..	..	..	..	..	..	..	..	..
Vision and Squint	146	585	731	32	556	522	21	13	143	76·1
Hearing.....	12	17	29	3	23	11	9	3	3	79·3
Miscellaneous	23	15	38	4	32	22	10	..	2	84·2
TOTAL	463	1,399	1,862	120	1,400	1,234	117	50	371	75·2

*See Table No. 52

Table 55.

Numerical Return of all Exceptional Children in the Area.

			Boys	Girls	Total
BLIND. (including partially blind).		Attending Public Elementary Schools ...	6	9	15
		Attending certified schools for the blind..	—	—	4
		Not at school	—	—	—
DEAF AND DUMB. (including partially deaf).		Attending Public Elementary Schools...	19	21	40
		Attending certified schools for the deaf	—	—	7
		Not at school	—	—	—
MENTALLY DEFICIENT.	Feeble Minded.	Attending Public Elementary Schools...	—	—	58
		Attending certified schools for mentally defective children	—	—	—
		Notified to the Local (Control) Authority during the year	—	—	—
		Not at school	2	1	3
	IMBECILES IDIOTS.	At school	—	—	6
		Not at school	—	—	4
EPILEPTICS.		Attending Public Elementary Schools...	—	—	20
		Attending certified schools for Epileptics..	—	—	—
		Not at School	—	—	—
PHYSICALLY DEFECTIVE.	Pulmonary Tuberculosis	Attending Public Elementary Schools. ..	17	13	30
		Attending certified schools for Physically Defective Children	—	—	—
		Not at school	30	35	65
	Other forms of Tuberculosis	Attending Public Elementary schools....	51	38	89
		Attending certified schools for Physically Defective children	—	—	—
		Not at school	18	22	40
	Cripples other than Tubercular	Attending Public Elementary Schools ...	—	—	90
		Attending Certified schools for Physically Defective children	—	—	—
		Not at school	—	—	12
DULL OR BACKWARD*		Retarded 2 years	—	—	—
		Retarded 3 years	—	—	—

* Judged according to age and standard.

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APPENDIX.

- (a) **Measles.**
- (b) **Supervision of Tuberculosis
Contacts.**

APPENDIX.

THE MEASLES PROBLEM.*

Measles is no modern disease. One of the earliest references to the subject is to be found in the writings of Rhazes, an Arabian physician, who lived about the time of Alfred the Great, and was the author of some two hundred writings, partly medical, partly philosophical. The contents of his works reveal powers of observation and skill in description betokening the genius of a master mind. It is noteworthy that Rhazes treated the patient rather than the disease, and relied chiefly on dietetic measures associated with simple drugs. Certain of his aphorisms might usefully be taken to heart even at the present day—"At the commencement of an illness choose measures whereby the strength may not be lessened," and "Where thou canst cure by diet use no drugs." Although measles was at that time and for some centuries afterwards frequently confused with small-pox, yet Rhazes's description is sufficiently clear to leave little doubt that the symptoms of one of the two illnesses portrayed by him were in fact those of measles. Referring to the significance of the different types of rash he wrote: "The safest kind of measles is that where the redness is not very deep the green and violet coloured are both mortal," a statement intelligently anticipating the present day teaching that the severity of the disease is proportionate to the intensity of the rash, and that cases showing hæmorrhage into or under the skin are invariably fatal. With regard to the symptoms of measles he said, "The symptoms of measles are a hoarseness of the voice, redness of the cheeks, pain in the throat and chest, dryness of the tongue, pain and heaviness of the head, redness of the eyes with a great flow of tears, nausea and anxiety."

Hirsch states that in the sixteenth century measles had become to be recognised as distinct from small-pox, but that it was at times confused with scarlet fever. He concludes that the disease was in all probability widely diffused over Asiatic and European soil during the Middle Ages.

Sydenham in 1675 clearly described an epidemic of measles which had just swept over England, stating that it was the most perfect variety of its kind he had ever seen.

*A summary of two lectures given in London in May, 1916, under the auspices of the Chadwick Trust.

About seventy years later measles caused a high mortality in France, Germany and Brazil.

To realise fully the devastating effect of measles, it is only necessary to observe the behaviour of the disease when emplaced on a virgin soil. In the Faroe Islands measles was prevalent in 1781, 1846, 1862 and again in 1875. There were no cases between 1781 and 1846—some sixty years—a period of freedom from infection sufficiently long to allow for the growth of a susceptible population. It is related that in 1846 the disease was carried from Copenhagen, attacking more than 7,782 inhabitants. It was introduced by a cabinet maker, who himself developed measles after arriving at the chief port of the islands. He communicated the disease to two of his most intimate friends. In every instance direct or indirect contact with a measles patient could be shown to have taken place. The epidemic in 1862 was entirely confined to one place and affected only twenty-five persons. In 1875 measles was epidemic in the Shetland Islands. Four Shetland fishermen were landed at a port in the Faroe Islands and were so well isolated that no case of measles was contracted from them, but unfortunately an English fishing smack anchored at another port, and measles soon broke out in the seven-year-old son of a Customs officer. The epidemic, once started, continued to spread, until over 1,100 persons had been infected.

The value of quarantine is well brought out in the experience of the Faroe Islanders. About 1,500 of the inhabitants of one of the islands tried the experiment of isolating their village, and on their own initiative remained free from infection.

Epidemics of measles have been observed in Iceland in 1664, 1694, 1846, 1868 and 1882. These, according to Hirsch, always originated in imported infection.

One of the worst instances of an isolated epidemic of measles was that which occurred in the Fiji Islands in 1875. The disease was apparently conveyed to the Islands by the King and his party who returned to Fiji convalescent from an attack acquired during their stay in Sidney. A most malignant epidemic appeared in due course, and in spite of every effort, rapidly spread throughout the whole Island, necessitating the conversion of every public building into a hospital. Nearly all the chiefs died from the disease, and it is said that no less than 40,000 natives out of a population of 150,000 perished in the epidemic. Fiji experienced a second but

milder epidemic in 1907 when the mortality amounted to about 1,800 out of 30,000 cases in a native population of 89,000 which had no contact with measles for thirty-two years.

In the latter part of 1873 measles was introduced into Mauritius, where it had long been unknown. During the last quarter of 1873 and the first quarter of 1874 it caused more than 2,000 deaths. The Indian and general population suffered in about equal proportions. In one town in three months nine persons per thousand died from the disease. All ages suffered, even up to advanced periods of life. The greatest mortality was, as usual, amongst children. Measles reappeared in 1884 and in 1899, in the latter year the outbreak was extremely mild, 200 cases occurring without a single death.

It is recorded that measles first visited Tasmania in 1854. In one district it caused 44 deaths, but 27 of these occurred in an orphan school where there was a daily average of 424 children, overcrowded, underfed, and otherwise hygienically mismanaged. Measles was again epidemic in 1861. The orphan school, notwithstanding many hygienic improvements, showed an undue proportion of deaths.

Up to June, 1893, measles had not appeared in Samoa. It was in that month conveyed to Tonga by a steamer from New Zealand, and appears nearly to have decimated the Tonga group of islands. The same steamer brought the infection to Samoa in October the same year. The epidemic was at first mild, but before it ceased 1,000 of the population of 34,000 had died, and nearly half of the deaths were amongst adults.

Corney described a measles epidemic in Rotuma, an outlying dependency of the Fiji Islands. The population had escaped measles infection until the early months of 1911, when a steamer called at the island with a case of measles on board. Through a most unfortunate chain of circumstances it happened that at the time the steamer arrived there was no medical officer on the island, and the infection was spread among the inhabitants. The population of the island was about 2,000 persons. The disease was introduced on January 29th. By March 26th there were 700 cases. The epidemic continued throughout April and May and finally died out in June. No less than 326 persons died, and it is noted that the number of deaths from pulmonary tuberculosis in the same year showed a considerable increase.

In England very serious epidemics have occurred at Barnsley, Burton-on-Trent, Wolverhampton, Lancaster, St. Helens, London, Nottingham, Birmingham, Manchester, Liverpool, and in many other towns, and there is hardly an urban community from which the disease has not at one time or another taken its toll of lives.

Brownlee has shown that in London there is in the first place a seasonal periodicity with a maximum prevalence early in June and late in December.

Secondly, there is in the life history of the organism a cycle with a well-marked periodicity of one and seven-eighth years. In Perth the interval is sixteenth months and in Paisley two years.

Brownlee further states that where the periodicity due to the organism is brought into conflict with that due to the season the progress of the disease becomes lessened.

There is, however, a third factor. Whitelegge, in 1892, drew attention to the periodicity of measles epidemics and showed that apart from the seasonal variation and the two yearly minor waves there occur occasionally, over wide or narrow areas, virulent and destructive outbursts of the disease to which he applied the term "major epidemics" and in this connection it is interesting to notice that the Fiji visitation of 1875 seems to have been part of a major epidemic which swept across South Africa in 1872, Mauritius in 1873, South Australia in 1874, and thence to Fiji in the following year. At each district affected in turn there appears to have been evidence of considerable virulence of type, so that it is possible that the high mortality in Fiji may to some extent have been due to identification of the poison of the disease.

The periodicities of measles are fortunate in that they enable the occurrence of an epidemic in any locality to be foretold with almost mathematical certainty, and there is therefore little excuse for those sanitary authorities who allow an outbreak to find them unprepared.

In civilised communities measles is a disease of childhood, but when introduced into a susceptible population it assails young and old alike. Probably there is no natural immunity—protection can only be obtained by a previous attack. It is rare for a child under six months of age to become infected, inability to walk undoubtedly diminishing the opportunities of contact with children suffering from the disease. A recent

inquiry into the ages of cases of measles notified in Leeds reveals a progressive prevalence in each age group up to the fifth year, when approximately half the children entering school have suffered from measles.

The age of a patient has a most important bearing on the question of recovery. Measles as a cause of death is almost entirely confined to children under six years of age. In St. Helens, out of 1,027 deaths since 1901 from measles no less than 98 per cent. were in those under the sixth year. Generally speaking it may be said that over 90 per cent. of the total deaths are among those under five.

In Leeds, since notification has been in force, the case fatality has closely followed the experience of other large cities, and whereas nine children die among every hundred of those attacked before the first year, in the succeeding year the number is eight and in the second year only three, while among children in their fourth year the loss is less than one per cent.

In large towns measles is almost continuously present, extensive outbreaks of the disease being largely determined by the accumulation of a susceptible population. Medical inspection of school children has placed in the hands of sanitary authorities valuable information concerning the attack rate of measles among the various age groups of the school population. Butler, as a result of an inquiry into the medical history of nearly 14,000 children showed that of those from 5 to 6 years of age 47 per cent. had suffered from measles, whereas those from 10 to 15 years of age 90 per cent. had had the disease. A similar inquiry carried out in Lancaster gave percentages of 54 and 86, while in St. Helens, of those entering school 65 per cent. were stated to have had measles and of those leaving school 82 per cent. It will therefore be reasonable to assume that amongst the lower and middle classes in urban districts at the age of leaving the public elementary schools, few children have escaped an attack of measles. In scarcely populated rural areas and among the upper classes the disease is less common in the early years of life. Ker states that in both Glasgow and Edinburgh it is noticed that an increase in the number of cases occurs between the ages of twenty and thirty years. This is explained by the fact that persons of both sexes, who have been brought up in distant villages under conditions of natural isolation come into the cities at about the age of eighteen or later to seek employment. It is not long before they are exposed to infection and they are as liable as young children to contract it.

Measles is a disease of extreme infectivity. It is rare that a susceptible person exposed to infection escapes.

It is recorded that in 1904 fourteen students were taken for five minutes into an isolation room to see a case of measles. The only student who had not suffered from measles contracted a severe attack, the first symptom occurring after nine days.

Another interesting experience is that of a farmer and a stockman from a little village (a) who went to a neighbouring city with his stock. Nine days later he had a bad cold and spent two days wandering about gossiping from store to store in his village. Three days later the occurrence of an eruption caused him to be interned at home. Two weeks later 28 of those with whom he had been gossiping developed measles. In another two weeks 28 further cases occurred, and two weeks later 30 more, making in all 86 cases, and as this number constituted almost the entire population in the village the epidemic subsided. But in the meantime one of the first group in (a) visited his own medical man in another town (b). The medical man's child contracted measles and from this case 90 other cases occurred in (b). A visitor from another town (c) came home from the village (a) and carried infection to (c) where 100 cases occurred. The County examinations were held in (c) and a pupil from (d) attending them took the disease back there, with the result that there were 30 cases in (d). Over 300 cases were indisputably traced to the original case occurring in the farmer.

The secretions and discharges from the mouth, nose and throat, are the chief channels by which the contagion is transmitted. Fortunately, it does not appear to be diffusible through the air except in the form of droplets of saliva expelled during coughing and sneezing. Outside the body the life of the measles organism is brief—it is readily destroyed by exposure to air and sunlight.

The preliminary symptoms of measles appear on the tenth day after exposure to infection. At first there are all the signs of a severe cold in the head. The eyes, slightly reddened, after a day or two begin to water copiously. Frequently the patient objects to light. Sneezing commences early in the disease. Ker states that "An exposed person should be isolated at the first sneeze, as there is nothing more likely to disseminate infection." The nose begins to run and there is generally some hoarseness and frequently a short, irritable cough. There may be an increase of temperature

as a first sign. On the other hand it is very common to find that the temperature rises at the onset of the symptoms, and then becomes nearly normal for one or two days, rising again as soon as the rash appears. In a normal case the temperature remains elevated not more than three or four days after the onset of the rash. Although the rash does not appear until the fourth day of the disease, there is, however, an extremely interesting condition of the lining membrane of the mouth, which may frequently be used as a clue to the real cause of the apparent cold in the head. Inside the cheek, at the level of the first molar tooth, may be seen on the second day, minute bluish-white specks, known as "Koplik's spots." These are reliable evidence of the presence of measles. The rash, dusky red in colour, generally appears first behind and below the ears. The whole of the face, at first flushed, is soon covered. The rash then extends down the upper part of the trunk and the arms, and within twenty-four hours of its occurrence the patient is completely covered. The eruption is raised and can easily be felt by the finger lightly passed over the skin. There is generally some swelling around the eyes and of the face so that Ker states that "The blotched face, bleary eyes, and puffy and swollen features, together form a picture which once seen is readily recognised in future." After the rash fades a staining is usually left, and there follows as a rule a flaky desquamation, or peeling of the skin. Convalescence in a normal case is rapid, and the patient generally feels perfectly well on the seventh or eighth day. In a severe case there are high temperature, a very profuse rash, bluish in colour, delirium and marked prostration, the pulse becomes rapid, and the patient dies on about the seventh day. The majority of deaths in measles occurs not directly from the disease, but from complications which frequently accompany it. Of these complications broncho-pneumonia is the most important. The first signs of this dreaded foe may be seen during the occurrence of the rash. The respirations are increased, the temperature, instead of falling, as the rash fades, continues high, and the pulse becomes more rapid. On listening to the chest signs indicative of areas of inflammation in the lung may be discovered. The broncho-pneumonia may persist for weeks, rarely does it disappear under ten days. In fatal cases death occurs from exhaustion and heart failure. Nearly 50 per cent. of cases of measles complicated by broncho-pneumonia die.

One of the most remarkable facts in the history of measles is the persistency with which the type of the disease has withstood the march of centuries. Sydenham describing in 1670 an outbreak of measles says:

“ These measles began very early as they were wont to do, namely, at the beginning of January, 1670, and increasing daily came to their height in March. Afterwards they gradually decreased and were quite extinguished in the following July. I will give an account of this sort because I reckon them the most perfect of their kind that I have hitherto observed. The disease began and ended at the times above mentioned. It chiefly invaded infants and all those that were together in the same house. It began with shaking and shivering, with an inequality of heat and cold which mutually expelled one another the first day. The second day it ended in a perfect fever, with violent sickness, thirst and want of appetite. The tongue was white but not dry. There was a small cough with heaviness of the head and eyes, accompanied by a continual drowsiness, and for the most part a humour distilled from the eyes and nose. This effusion of tears is a certain sign of the approaching measles, whereunto this is to be added, no less certain, namely, that though this disease shows itself most commonly in the face after the manner of little swellings in the skin, yet in the breast rather red broad spots than swellings are perceived rising no higher than the superficies of the skin. The patient sneezes as if he had taken cold, and the eyelids swell a little before they come out. He vomits, he is often troubled with a looseness, and the stools are greenish, but this happens chiefly to children who are breeding their teeth, and they are more froward in this disease than they are wont to be. The symptoms increase for the most part to the fourth day, and then generally, though sometimes they are deferred to the fifth day, little red spots, like flea bites, start to come out about the forehead and other parts of the face, and being increased in number and bigness, branch into one another and to paint the face with large red spots of various figures About the eighth day the spots on the face vanish but on the ninth day they quite disappear The face and members and sometimes the whole body seem as it were to be sprinkled over with bran. It is to be noted that the fever and difficulty of breathing are increased at that time (eighth day) and the cough is more troublesome, so that the sick can neither sleep night nor day. Children are chiefly subject to this late symptom, which appears now at the going off of the measles and so they are cast into a peripneumonia which destroys more than the small-pox, and yet the measles are not at all dangerous if they are skilfully treated.”

It is a well established fact that measles of itself is rarely a cause of death. So far as certificates of death may be taken as a guide, in only about eight per cent. of the cases can death be directly ascribed to the

disease. By far the commonest form of certificate is "measles—broncho-pneumonia." For the year 1911 49 per cent. of all the deaths were so certified. A further 19 per cent. were stated to have been complicated by some form of pneumonia and nine per cent. in addition to pneumonia-bronchitis. In all 81 per cent. of the measles deaths were returned as complicated by some form of respiratory disease. It will be evident, then, that to reduce the mortality in measles inquiry must be made into the reason for the prevalence of respiratory complications and the high death rate from this cause. The Local Government Board in 1911 made arrangements whereby Dr. Thursfield should undertake an inquiry into the cause of death in measles. The investigation carried out was mainly based on an examination of patients in the hospitals of the Metropolitan Asylums Board. Dr. Thursfield's conclusions briefly were as follows :

The most frequent cause of death in measles is a blood poisoning set up by micro-organisms usually found in the mouth, and that this infection leads to death towards the middle or end of the second week of the disease. In the majority of patients who die from this cause there is a well-marked broncho-pneumonia.

The probable source of infection is a septic condition of the mouth, nose or throat.

Next in importance as a cause of death is infection by the pneumococcus, the germ of pneumonia, but that the mortality from pneumococcal infection is comparatively low, in other words, the majority of patients so attacked, recover.

Dr. Thursfield's findings support the conclusions previously arrived at by Lorey who formed the opinion that

The streptococcus pyogenes is the most frequent cause of complications in the course of measles.

The severity of an epidemic of measles is determined by the frequency of the secondary infections with this micro-organism.

The primary seat of the secondary infection is in the upper air passages.

If the results of these investigations be accepted a flood of light is thrown on the reason for the terrible mortality from measles experienced by children of the lower classes. If the main cause of death in measles is infection set up from an unhealthy condition of the mouth, nose and throat, it is hardly a matter for surprise that a heavy toll will be exacted

from amongst the families living in insanitary surroundings. The child whose playground is the unswept street, the gutters and pavement littered with garbage and other filth; whose idea of hide and seek is confined to a romp along back passages into which the contents of pail closets and ashpits are overflowing; whose voyage of discovery is limited to a search for tin foil and cigarette cards perchance buried amongst the contents of open ashplaces, is unlikely, to possess a healthy condition of the nose and throat. Overcrowding of buildings, leading to obstruction of sunlight and the free circulation of air must of necessity exert an unfavourable influence on children condemned to dwell in insanitary areas. No less important is overcrowding in individual houses. A child who sleeps in a room in which sunlight can never enter, where damp and dirty walls, decayed plaster and defective flooring render efficient cleansing impossible, who shares a bed common to three or four members of the family, who nightly breathes an atmosphere deficient in oxygen, overcharged with organic and inorganic impurities, is unlikely to present a normal respiratory system. Whatever may be the cause of enlarged tonsils, adenoids, mouth breathing and decayed teeth, the result during the occurrence of measles is certain to be prejudicial to recovery. Many progressive education authorities have established school clinics at which defects in children can be treated at a small cost to the parents or in certain cases gratuitously. The work at the clinics, however, is mainly devoted to children of school age. It would seem a reasonable expenditure even to-day, when in public and private life rigid economy is essential, that the provision of treatment for children should be generally extended to those under school age.

With regard to the effects of overcrowding, Brice relates that an overcrowded emigrant ship left Rotterdam on June 13th, 1911, for Canada. On June 14th a child developed measles and was immediately isolated with the whole family. In the compartment from which the child had been removed were 51 families, 279 persons in all. Among them the second case appeared on June 26th. Thirty-three more cases occurred on the following day, and in all 71 persons developed the disease. Every non-immune person in the compartment with the child was infected within the short space of twenty-four hours.

In clean homes and in good surroundings healthy children rarely fail to make a good recovery, on the other hand the death rate from measles among the infants of unskilled labourers is nearly four times as great as that of children of the upper and middle classes. Conclusions drawn from the occupation of the father, although valuable, are open to the objection that

sanitary houses and well-cared-for children are fortunately to be found among the poorest section of the community, and conversely the home conditions of some children in better class areas of a district may be not beyond reproach.

With this difficulty in mind a very careful inquiry has been made into the state of sanitation of the houses in which about a thousand deaths from measles have occurred in St. Helens.

The results obtained show that of 1,015 deaths 70 per cent. occurred in insanitary houses.

Dr. Spottiswood Cameron, Medical Officer of Health for Leeds, in a paper published in 1895, stated that "Given a greater or smaller prevalence of measles the question as to which of the sufferers shall die and which shall recover, will depend largely on the comparative resisting powers. Resisting power is doubtless dependent upon idiosyncrasy, upon age, and upon other factors. Amongst the latter the sanitary environment is probable not the least important. Poverty, hunger and dirt are likely to retard if not prevent the recovery of those attacked, and are amongst the most potent causes making for death." In 1891, 1892, and 1893, he had an inquiry made into the home circumstances of 884 cases of measles who recovered and 657 cases who died. Applying the terms "death houses" and "recovery houses" to the premises in which the cases of measles occurred, he found that of the 657 death houses 82.5 were without a through draught, and that among the recovery houses 78.5 were similarly circumstanced, showing that there was a slightly increased probability of recovery in the case of measles occurring in a through ventilated house. With regard to the closet accommodation in the death houses, there were 17.2 with water closets, 38.8 with trough closets, and 44 per cent. with privy middens or pail closets, the figures for the recovery houses being 33.6, 24.7 and 41.7. Classifying the houses into two groups, namely those generally insanitary and those apparently sanitary, the death houses showed 19 per cent. sanitary and 81 per cent. insanitary, whereas in the recovery houses the figures were 24 and 76. Dr. Cameron stated that on the whole the conclusion seemed to be warranted that the fresh air provided by a through draught tended to produce recovery where measles had attacked the family, while overcrowding dirt, structural and other insanitary conditions assisted in bringing about a fatal issue.

The rate at which infants die in any district may be regarded as a delicate and reliable index of its general sanitary condition. The effects

of overcrowding, of dirty, dilapidated houses, unpaved yards and accumulations of refuse, are first felt by the youngest section of the population. It is therefore not surprising that towns exhibiting a high rate of infant mortality should also show an excessive death rate from measles.

If the death rates from measles of the ten county boroughs showing the highest rates of infant mortality are examined it will be noted that even in non-epidemic years they are as a rule well above the average rate for England and Wales.

The heavy mortality from measles is not the only serious aspect of the problem presented by the disease. In its crippling effects measles may be regarded as one of the most dangerous of the diseases of childhood.

Persistent bronchitis may prolong convalescence and condemn the child to life-long disablement or permanent injury to the sight or hearing may follow.

The lymphatic glands lying within the chest may become enlarged and eventually the site of tubercular infection, and it is extremely common to be able to trace the source of malnutrition and retarded growth in children to a past attack of measles.

It may not be inopportune to refer to the effects of poverty and intemperance as a contributing cause of an excessive measles death rate.

Poverty is often the determining factor in the industrial employment of mothers, the failure to obtain adequate medical assistance, and in the type of dwelling occupied. Houses of low rental are generally situated in insanitary areas where numerous unfavourable influences are at work. Insufficient and unsuitable food, want of clothing and bedding, inability to procure articles necessary to maintain a reasonable standard of cleanliness, in other words, the absence of home comforts—all tend towards the physical unfitness of the child, and when measles occurs, adversely affect the chances of recovery.

Vice, drunkenness and crime may be found hand in hand in insanitary areas, and it is almost impossible to differentiate between the part played by these kindred causes of disease.

Notification is the keystone of the arch of any efficient system of administrative control of measles, and unless the existence of every case of the disease is promptly brought to the knowledge of the medical officer of health it is impossible for adequate steps to be taken to provide the necessary treatment for individual patients and to prevent the spread of infection.

Unfortunately the question of the advisability of compulsory notification of measles has for many years been the subject of controversy.

Those not in favour of notification maintained that owing to the disease being infectious before the occurrence of the rash it would be spread before its true nature could be discovered, and that the notification certificate would be received by the medical officer of health too late to allow of the necessary precautions being taken.

As a matter of fact the same argument might be used against taking any action in diseases such as scarlet fever or diphtheria, for in the majority of cases of these diseases the patient is infectious before the condition is recognised. Indeed in nearly all cases of infectious disease there is infectivity before recognition, or at any rate before effectual isolation can be carried out.

Secondly, the opponents of notification asserted that the cost of notification would at least at times of epidemic be prohibitive and that it would show no measurable return, and further that many towns had adopted a system of notification only to reject the experiment after a few years' trial.

With regard to the expense of notification the saving of one life would repay the cost of 1,600 notifications at 2/6 each, or 4,000 notifications at the present war price of 1/- for each certificate.

It is true that a number of sanitary authorities as a result of their experience came to the conclusion that the continuation of notification was inadvisable, but it is also true that in practically no instance was a complete scheme with all the advantages of regular and frequent home visitation, home nursing, and the provision of hospital accommodation in force.

A writer in a medical journal twelve years ago summed up the position very truly, when he said :—" It is clear that without notification no useful control of measles is practicable, and the extent of such control must largely depend upon the measures which are taken on the information

thus brought to the knowledge of the sanitary authorities. If it is to be expected that the mere effect of notification will result in the stamping out of the disease, disappointment is certain, and a similar result is likely to accrue when it is expected that a part time medical officer and an unqualified sanitary inspector are to take what is sometimes spoken of as the consequent measures. Sanitary authorities so situated will gain no great benefit from notification. If, on the other hand the facts brought to light are properly handled and the notified cases are used as indications of the existence of unrecognised cases, the diminution of the disease should ensue. The fact that measles is infectious before the appearance of the rash is obviously an unfortunate element in the problem, but it would be altogether unscientific as well as unstatesmanlike to take up the position that because there are difficulties therefore measles should be allowed to go entirely uncontrolled."

The compulsory notification of disease always found opponents. As far back as the time when the Infectious Diseases Notification Act was passed in 1899, it was argued that difficulties between medical men and their patients might occur in connection with notification, and that as a result persons suffering from infectious disease would obtain treatment from quacks; that the fear of publicity would lead to concealment of cases, and that local sanitary authorities would harass the sufferers and jeopardise their chance of recovery.

After notification came into force attempts were made to discredit its usefulness, and it was even stated that the general death rate had increased as a result of the notification of infectious disease.

Notification of disease has proved its worth, and whereas in 1899, eleven diseases were made notifiable, the number has now increased to seventeen.

On the first of January, 1916, the Local Government Board issued regulations making measles a compulsory notifiable disease throughout the country, and at the same time met the objection of cost by throwing the duty of notification of every case upon the parent, guardian, or person in charge of the patient. Medical practitioners, however, are bound to notify the occurrence of the first instance of the disease in any house; subsequent cases are not required to be notified by doctors until two months have elapsed since the first notification. No payment is made to parents, but medical men now receive the sum of one shilling for each certificate. Under the same regulations it became the duty of the medical officer of health to inquire into the origin of every case of measles notified to him, and to

take such steps as may be necessary to prevent the spread of infection. Local sanitary authorities are also empowered to provide for home nursing and hospital treatment.

It might have been expected that as soon as measles had been made a compulsory notifiable disease throughout the country, wrangling over the expediency of notification would have been allowed to cease. In certain districts, however, on a plea of economy, an attempt was made to organise a joint representation to the Local Government Board, of local authorities desirous of securing some modifications of the regulations, and it soon became obvious that the chief alteration suggested was that the provisions of the Order should be adoptive, that is to say, each sanitary authority should be at liberty to accept or reject the regulations according to its discretion.

The reasons adduced by those anxious to escape the effect of the Order were the ancient objections already referred to, and in addition it was urged that notification would be almost entirely limited to cases under the care of medical men, and therefore presumably properly looked after ; this assumption appears to ignore the need of efficient home nursing, and moreover it is notorious that in the majority of cases of measles occurring among the lower classes a doctor is never called in.

It was further stated that in most places there was no accommodation for hospital treatment. It might not be out of place to suggest that the same argument used with respect to small-pox, a disease causing in England and Wales in 1914, four deaths, as compared with 9,000 from measles, would be met with a prompt retort that accommodation must be obtained at once.

Then it was asserted that notification of a large proportion of cases of measles is already received without payment from health visitors, school teachers, and school attendance officers, a statement easy to make difficult to refute, but certainly far from the truth ; in the absence of complete notification there is no evidence of value supporting the assertion that the numbers notified by health visitors and others in any district approached even half of all the cases occurring in the area, and an insuperable objection to this method of obtaining information is that the notification is generally too late to be of any use.

Lastly, a ground of objection was discovered in the war, and it was pointed out that medical men and nurses could not be obtained to provide the necessary treatment.

The needs of the army are paramount, both doctors and nurses must be forthcoming in the numbers required, but let it not be forgotten that the health of the Army largely depends on the health of the civil population, and particularly it is true as regards infectious disease. Measles has already been the cause of a considerable amount of sickness among the troops, especially in those coming from isolated rural districts where the disease rarely occurs. When measles is prevalent among civilians it is almost impossible to prevent the infection being carried into the neighbouring camps and billets.

In ancient days the disease was prone to exhibit a high fatality among soldiers. Hirsch states that the epidemic which prevailed in 1866 amongst the Confederate troops during the American Civil War caused 1,900 deaths out of 38,000 cases of sickness. The disease resembled ordinary measles in adults except where aggravated by the effects of crowd, poisoning or other depressing influences. In two large hospitals the mortality amounted to 20 per cent. of the sick.

In Paris during the seige out of 218 soldiers who became infected, 40 per cent. died, and the mortality reached nearly the same figure among the French troops who returned to Paris after the Italian War. Masterman, referring to a disastrous epidemic of measles in the National Army at Paragua says that an epidemic of measles swept off nearly a fifth of the National Army in three months, not from the severity of the disease . . . but from want of shelter and proper food.

Although some doubt has been cast on the above figures and it has been suggested that the amazingly high death rate was not due entirely to measles, there is still no doubt that the disease is serious from a military point of view, in particular owing to the amount of sickness and consequent loss of efficiency occasioned by it.

The conclusions arrived at by Sir Richard Thorne, concerning the notification of measles and the control of the disease admirably summarised the position twenty years ago, and are as applicable to-day. He said :—
 “ Where compulsory notification of measles is utilised by prompt and systematic visitation, as a clue to the existence of unreported cases ; where knowledge thus acquired is supplemented by information derived from school authorities and properly utilised ; where, in inter-epidemic periods or during stages before epidemics have passed beyond control, measures are adopted with a view to isolation and disinfection ; and where judicious

restrictions are imposed on attendance at elementary and other schools, much more is to be looked for in the control of measles than has heretofore been attained ; but it cannot be too clearly understood that a good result is not to be expected from the adoption of any one of these several measures ; and that if any approach to complete success be aimed at, each one of the several measures indicated must be regarded as necessary and supplementary to the others."

Immediately on becoming aware of the existence of a case of the disease the medical officer of health should arrange for a member of his staff to pay a visit to the house. There are three essential points concerning visitation :

Firstly—It must be prompt—either on the same day the notification is received or at the latest on the day following.

Secondly—It should be made by a woman who is a trained nurse, and if possible one with experience of infectious diseases.

Thirdly—The visitor should possess intimate knowledge of the locality in which she is working.

There is one important obstacle in providing for efficient and speedy home inquiry. Although an epidemic of measles may sometimes slowly creep through a town, it is not infrequent that the outbreak is explosive in character, thereby taxing to the utmost the activities of a health department. The difficulty may be met if sanitary authorities provide their medical officers of health with an adequate staff of health visitors, and the duties of the various members of the department are allocated on what may be termed the district system. Each health visitor should be entrusted with the care of a district, and her activities so directed that the whole infant and child welfare work, the supervision of midwives, the following up of instances of defects found among children attending the elementary schools, inquiry into cases of tuberculosis, measles, whooping cough and other diseases should come within her province. The extent of the area with which one health visitor can reasonably be expected to deal in non-epidemic periods will largely depend on the density of population and the existence of means of transit from one part of the district to another. Generally speaking it may be said that each area should not contain more than 5,000 persons.

It is to be doubted whether any county or borough council in England has furnished its medical officer with a sufficient staff according to this standard.

In times of an explosive epidemic it may be necessary to employ assistance, but the temporary nurses should be given infant visiting or work in connection with tuberculosis in order to allow the permanent staff with the advantage of their local knowledge to concentrate on the outbreak of measles.

Having made inquiries into the history of the case, and the probable source of infection, the health visitor will point out to the mother the dangers of the disease, and the means of averting them, and will report the result of her investigations to the medical officer of health. It is for him to decide, after consultation with the doctor in attendance, if any, whether home nursing is needed or removal to hospital advisable.

Prompt and thorough inquiry into each instance of the disease, together with frequent revisitations are absolutely essential in attempting to cope with the measles problem. Each notification must be the starting point for inquiries leading to the detection of un-notified cases.

If home nursing is thought to be required—and there are few areas in which recourse to nursing will not have to be made, the local sanitary authority is empowered to incur the necessary expenditure. In most districts it is probable that the services of local nursing associations will be sought, and it is to be hoped that they will be in a position to undertake the work. In some places it is possible that the nursing staff of isolation hospitals will be employed, but there are few institutions at present with a staff sufficiently elastic to furnish nurses to the number required in a time of epidemic. A patient should be visited at least twice a day by a nurse who should have received special instructions concerning the nursing of measles cases.

The health visitor would afford a channel of communication between the nurse in attendance and the medical officer of health, but the supervision of the nursing would remain in the hands of the local association.

On the occurrence of certain danger signals*, such as :—

A temperature of 104°.

A temperature of 101° after the 7th day.

A hæmorrhagic rash.

An ill-developed rash with prostration.

A pulse rate over 140 in a child under three.

A pulse rate over 120 in a child over three.

Rapid respiration over 50 per min. with frequent cough and dusky lips.

Earache with a rise of temperature lasting more than 24 hours.

Purulent discharge from the eyes.

Persistence intolerance of light.

Profuse and persistent diarrhœa.

a form calling for medical aid should be made up and given to the parents and a duplicate sent to the medical officer of health, the nurse remaining in attendance and continuing to do her best for the patient.

On receiving the duplicate form the medical officer would take steps to discover whether a doctor had been called in and whether removal to hospital was necessary.

Home nursing, widely and intelligently adopted, is likely to reduce the case mortality, to diminish the prevalence of complications after measles, to impress on parents the seriousness of the disease, and to lead to an improvement of the hygiene of the home. But in every district there will be numerous cases in which the home conditions are likely to jeopardise the chances of recovery or to retard convalescence, and therefore the provision of hospital accommodation must be considered. It is unlikely that many sanitary authorities will be in a position at once to set apart a sufficient number of beds to receive those patients living under unfavourable home conditions, nevertheless the saving of life to be effected by institutional treatment would in the first epidemic probably repay the cost of building wards at existing isolation hospitals.

The statistics relating to the death rate from measles of those admitted to hospital generally show a high case mortality, and will continue to do so while treatment is restricted to patients most seriously ill, and those coming from insanitary areas, but there will be few to deny that the provision of hospital treatment for cases of measles occurring in houses where efficient nursing is impossible is, in the hands of public health authorities, a most efficient weapon in preventing loss of life. It is unfortunate that figures respecting the mortality from measles of cases treated in institutions have been used by some as evidence of the inutility of hospital treatment. The London Fever Hospital during 1910 treated 209 cases of measles; 191 were discharged recovered during the year, and 18 remained still in the hospital. No death occurred among the 209 cases under treatment. Commenting on this fact a medical journal stated that "it afforded the strongest evidence of the beneficial effect of hospital treatment of the disease." The Metropolitan Asylums Board in view of the serious mortality from measles and

whooping cough in London, decided in the same year to provide accommodation for pauper patients under sixteen years of age suffering from these diseases. In the first twenty-one weeks of the year 1911, 1,983 completed cases were dealt with, and of these 1,678 were discharged recovered, and 305 died. The deaths were in the proportion of 15.4 per cent. of the cases completed. The same journal referring to these figures stated that "this somewhat unexpected high rate of mortality for this disease was the more noteworthy when compared with the rate of mortality among the completed cases of the same disease treated during the same period in the London Fever Hospital, where there had been a case mortality of less than one per cent." and went on to state that "it was difficult to suggest a satisfactory explanation of this startling contrast in the case mortality of measles, although it might be partly due to difference in the condition on admission of the patients treated in the two institutions." Goodall in a telling retort, published as a letter to the journal in question, pointed out that the admissions to the London Fever Hospital were mostly limited to two classes of cases: the one consisting of servants or employees of annual subscribers to the funds of the hospital and the other of cases, to secure the admission to which, a fee of three guineas had to be paid, and these conditions at once secured the elimination from admission to the hospital not only of pauper patients but of patients drawn from the very large class just above pauperism, and limited the admission to members of the well-to-do classes and their servants. The writer of the letter went on to state that anyone who had the slightest acquaintance with the behaviour of measles knew or should know that measles among the poor was a much more serious disease than amongst those who were better off. Moreover, in comparing the mortality in the institutions under the two authorities no account was taken of the ages of the patients, and a very small number of children were admitted to the London Fever Hospital, whereas the Metropolitan Asylums Board accepted a very large proportion under five years of age, a fact which of itself would go a long way towards explaining the difference of mortality. And lastly, that no fewer than 70 per cent. of the cases of so-called measles admitted in to the London Fever Hospital were in reality instances of German measles, a disease hardly ever known to be fatal.

The mortality statistics of cases treated in hospital naturally vary enormously, according to the correctness of the diagnosis, the age of the patients admitted, the severity of the attack, the sanitary conditions of the home.

In a French hospital during the five years ending 1886, of 1,575 admissions, 46 per cent. died. Ker shows that in the Edinburgh City Hospital out of 4,310 cases the mortality was 6.7 per cent., while the Glasgow Fever Hospital statistics showed a death rate of 9.2 per cent. among 12,362 patients.

In London during 1912, 4,314 measles cases were received in hospitals of the Metropolitan Asylums Board, the mortality rate being 9.6 per hundred, the fatality rapidly diminishing with the age of the patient.

In 1915 the St. Helens Town Council as an experiment decided to take measles cases into the borough isolation hospital, the patients were almost all dangerously ill, and many came from insanitary homes. Between January and May 100 cases were admitted and of these 82 were five years and under. Seventeen died, 13 being two years old or less. Four died on the day of admission. Sixteen of the deaths were due to broncho-pneumonia. Twenty-seven had broncho-pneumonia but recovered.

It is certain that many lives were saved that in the absence of hospital accommodation would have undoubtedly perished.

Ker, as the result of wide experience as medical superintendent at the City Hospital, Glasgow, states that isolation in hospital cannot be justified as a means of checking the spread of infection, but it can be more than justified as a means of saving the lives of the children of the poor, and he is confident that large numbers of the children who pass through the wards of his hospital and recover would certainly have died had they been left at home.

Newsholme in a recent memorandum says that hospital accommodation during an epidemic can be made the means of preventing serious loss of life.

Neglect of the sick is beyond question an important factor in the production of a high rate of mortality in measles.

Hirsch emphasises the fact that the severity of the type of the disease can frequently be shown to be due to the absence of all rational treatment. In 1749 the disease appeared among the natives on the banks of the Amazon, where it is estimated that over 30,000 died, whole tribes being cut off. In Astoria in 1829 nearly one-half of the natives succumbed. In a leading article in the *Lancet* of June, 1875, it is stated that the great mortality had been in large measure due to the fact that the sick were exposed to

most unfavourable conditions. "Unprotected from exposure, unattended and untreated, chiefly in consequence of their own unhappy prejudices, every complication of the disease must have been invited and rendered intense. In accordance with this view it was found that those classes of the native population over whom adequate supervision could be exercised, suffered lightly." Smellie reports that in the epidemic of 1864 amongst the natives of Hudson Bay Territory of all those received into Fort York for treatment, not one died. Squire referring to the terrible epidemic of measles in the Fiji Islands in 1875 states that early in the epidemic the cases appeared moderately mild, later the people began to be seized with fear, abandoned their sick, chose swampy sites for their dwellings, kept themselves shut up in huts without ventilation, or rushed into the streams and remained in the water during the height of the illness. The consequences were fatal. The excessive mortality resulted from terror at the mysterious seizure and the want of the commonest aids during illness. Thousands were carried off by want of nourishment and care, as well as from dysentery and congestion of the lungs.

A "contact" in measles is generally taken to be a person living in a house where measles exists, but in houses let in lodgings to several families the term is usually applied only to members of the family in which the disease has appeared.

The question of the control of contacts has been for years a subject bristling with difficulties.

So far as those over school age are concerned, there is usually but little trouble. In urban areas considerably over 90 per cent. of those aged fifteen and upwards have already suffered from the disease, and it is not customary to attempt to restrict their movements.

With regard to children attending school there is a lack of uniformity in the methods adopted by different education authorities.

In some districts all contacts are excluded from school. In others only those who attend infant departments.

In certain towns the infants are kept away from school and also the elder children who have not had the disease.

In deciding the method of school exclusions to be adopted in any area attention must be given to several factors. The opportunities of the children for contact out of school, the prevalence of measles in the past

among those attending school, the experience of the district in former epidemics, particularly with regard to the severity of the disease, the sanitation of the schools, especially the ventilation, lighting and general cleanliness, must all be taken into consideration.

The period of exclusion generally recommended is twenty-eight days for the affected child and for a contact twenty-one days from the date of the onset of the illness of the last patient with measles in the house.

But beyond these measures there are other steps which may be taken to prevent infection occurring through the agency of schools. As soon as measles appears in a class children who have not had the disease may be sent home ; the whole class may be excluded from attendance or the school may be closed. It is probable that closure of schools has been carried out far more frequently than the necessity of the situation demanded, and in many cases this remedy has been applied too late.

Certain medical officers of health have tried the experiment of closing for a short period only the class in which a case of measles has appeared, that is to say, from the ninth to the fifteenth day from the time of onset of the symptoms in the first case. By this means children who are incubating the disease should fall ill at home during the five days exclusion.

I am confident that the scheme likely to give the best results is one providing for the daily visiting of each class in every school by a nurse trained to observe the early signs of infection, and the prompt home visitation of any child excluded or absent from school.

Obviously some control should be exercised over the attendance at Sunday schools and places of entertainment of contacts and those suffering from the disease, picture palaces in particular are from their construction, absence of light, want of ventilation, and overcrowding, admirably adapted to act as incubators of measles and other infectious disorders.

Dr. Chalmers in a report on a severe epidemic of measles occurring in Glasgow in 1908 showed that the attack rate was at least 17 per 100 living at ages of 3 to 5, compared with 5 per 100 at ages 5 to 15, and that of the 22,033 cases dealt with no fewer than 13,646 or 62 per cent. were at ages under 5 years. Although the influence of school association in the spread of measles is beyond dispute, the contrast between the attack rate in the first five years of life and that at 5 to 15, definitely raises the question whether school closure in any form can be expected materially to interrupt the current of an epidemic.

C. J. Thomas and Davies in a paper read before the London International Congress on School Hygiene came to the conclusion that every human being is susceptible to measles until protected by a previous attack, that it is impossible to prevent the frequent introduction into school, that once introduced into school measles will spread with a rapidity proportional to the number of non-protected children attending, that infection is likely to be carried by a third person; when two-thirds of a class are protected by a previous attack measles is not likely to spread even if introduced, and that the majority of children in elementary schools over seven years of age have already had measles.

The organism causing measles is easily killed, and it is probable that an uncomplicated case does not remain infectious beyond a week or ten days. The direct rays of the sun, free ventilation and soap and water are generally a sufficient disinfectant.

Nevertheless public authorities will be well advised to continue for the present the routine disinfection of houses where the disease has occurred, and for two reasons. Disinfection of the houses of the poor frequently leads to a much needed cleansing, and in the second place it impresses on the mind of the public the view of the health department that measles is a dangerous infectious disease, and is not to be treated with careless indifference.

It is admitted that in certain important respects measles is a difficult disease to attempt to control. It is infectious three or four days before the true nature of the illness becomes apparent to the parents; explosive outbreaks may occur, taxing to the utmost the staff of a medical officer's department. Local sanitary authorities are reluctant to incur the expenditure necessary to provide an adequate staff of health visitors, nursing assistance and hospital beds, parents are notoriously ignorant and also neglectful of a disease they consider as trivial as a common cold, and beyond all this the general public—and it is to be feared some medical officers of health—have adopted an attitude of fatalistic resignation entirely out of keeping with the best traditions of the pioneers in preventive medicine.

Dr. Munro, medical officer of health for Jarrow, in a paper read before the Epidemiological Society in 1891 expressed the opinion that the control of the spread of measles in urban districts was by no means a matter for despair. Given compulsory notification of all cases of measles and a careful and prompt return to the medical officer of health of the circumstance of each case as it occurred, more particularly of school attendance and the

immediate closure of every infants' school, amongst the school attendance of which say six or ten cases (assuming an average sized urban school) have occurred in the course of a week, the spread of measles was well within control. Many health officers entertained pronounced opinions as to the inutility of compulsory notification of cases of measles. The experience in Jarrow furnished strong presumptive evidence to the contrary. The first great epidemic of the decade occurred in 1883. At that time a few cases were voluntarily notified, but notification was not asked for by the Corporation, and no greater attention was paid to the matter than was customary in other towns. There occurred in the course of that epidemic 82 deaths from measles (2,929 per million) The next epidemic was in 1885 the medical men of the town were requested to notify cases of the disease, and a tardy effort was made by the health department to cope with it. The number of deaths in that year was 72 (2,400 per million). In 1887 the disease again showed signs of spread. The sanitary authority invited notifications and offered a fee. School closure was resorted to in two instances, although somewhat late in the day and a serious effort was made to arrest the course of the disease. In this year the number of deaths was 40 (1,443 per million). Before the next epidemic in 1889 they had scheduled measles as a compulsory notifiable disease. The inevitable outburst came, was energetically dealt with, and the number of deaths fell to 25 (903 per million). It is difficult to explain this steady and uniform decline in the extent of the measles epidemic in Jarrow upon any other ground than the utility of the notification system dealing with measles."

It is true that Whitelegge suggested that the improvement showed in the death rate from measles in Jarrow might be due to a falling wave of disease, but recent experience seems to show that well-directed effort is not without avail. The medical officer of health of York, in a recent discussion at Leeds, showed that the measures he had taken in an epidemic of measles now at an end had greatly retarded the progress of the infection, and that numerous schools usually affected in times of epidemic had escaped altogether.

I am optimistic enough to believe that the mortality from measles is not beyond control. At the moment when the ravages of war are destroying the flower of our nation is it too much to expect that sanitary authorities will provide their medical officers with an adequate staff of trained women workers to carry into every home the gospel of cleanliness, to protect the lives of the children, not only from measles, but from innumerable

other preventible diseases, to remove conditions of insanitation, and to raise the standard of life throughout the length and breadth of the land ?

Measles is a dangerous infectious disease. Every year in England and Wales over 10,000 deaths occur, mainly in children under five years of age, and certainly not less than an equal number is annually maimed for life. A host of lives represented by the population of Croydon has been destroyed since the beginning of this century. The main cause of death is infection of the lungs brought about by an unhealthy condition of the mouth.

A scheme for the administrative control of the disease and the means whereby treatment for cases may be provided has now been outlined. But in whatever direction steps are taken, failure is certain unless it is ever borne in mind that the reduction of mortality from measles must be undertaken apart from other branches of public health work.

The closing of unfit houses, the demolishing of overcrowded and insanitary areas, the frequent removal and destruction of house refuse, the regular and thorough cleansing of streets and passages, the establishment of school clinics and infant welfare centres, the teaching of hygiene in schools and the education of public opinion, are all intimately related to the prevention of sickness and the prolongation of life, and none can safely be neglected.

APPENDIX.**THE SUPERVISION OF TUBERCULOSIS CONTACTS.**

BY

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Recent years have witnessed much progress in the administration of preventive medicine methods for the elimination of tuberculosis have been widely discussed and received great attention.

Tuberculosis is not generally an acute infectious disease, consequently it has not been approached with the same vigour that has been displayed in the case of other of the notifiable dangerous infectious diseases. Herein lies the difficulty in its administrative control.

With reference to 'pulmonary tuberculosis there are three stages of the disease which must be considered. These are classified as the "early," "intermediates" and "late" stages. Very little can be done with the "late" cases beyond rendering them comfortable and preventing the spread of the infection. The "intermediate" cases have a better chance and with institutional treatment may return to work or be much improved in health. The "early" cases are the most desirable for treatment, for in the majority of instances they can be rendered quiescent; that is, further destruction of lung tissue averted.

The three stages of the disease from the point of view of infectivity vary considerably. Persons in the "late" and "intermediate" stages are generally the most infectious, and be looked upon as "carriers." The term "Carrier" has usually a threefold meaning, (a) a person who is convalescing from a disease, but still retains the power of infecting others, (b) a person who though quite well may transmit the disease from which he has been suffering to other healthy persons, (c) a person who is quite healthy and who has never suffered from the disease, in fact, may be in-susceptible to it, but conveys it to susceptible people. The term "Carrier" may well be applied to a tubercular subject, for though he suffers from the complaint it is not always obvious to others. He may be convalescent from an acute attack and still emit the germs, or he may be a chronic case, up and about, perhaps working, but continuing to show the bacilli in the sputum.

In work associated with the medical examination of persons in daily contact with consumptives, the convalescent and chronic "carriers" should be the objects of the supervision of the health authority. From the point of view of the dissemination of the tubercle bacillus the dangerous cases are undoubtedly those who are to all outward appearances quite healthy, yet they are emitting the organism in the sputum from time to time. The patient may look quite well, his body weight be maintained and his temperature not rising above the normal. Consequently relatives and persons intimately associated with him imagine that he is not infectious and measures to prevent the spread of infection are relaxed in the home.

Of two positive cases admitted into hospital with practically identical physical signs it is often observed that after an indefinite period, that one will cease to give a positive sputum, that is, sputum containing tubercle bacilli, when examined weekly by the latest methods, whilst the other will produce the bacillus "intermittently," according to the bronchial condition at the time. It is the "intermittently" positive cases which give cause for anxiety in "contact" work and are serious cases for consideration where there is a large family, much overcrowding and poor circumstances. Many of the cases in this condition when engaged in their respective occupations and during their infectious periods may spread the infection amongst susceptible employees.

Having realised the most dangerous type of individual, careful supervision must be kept over him and his household. This is one of the difficulties of "contact" work.

Most medical men engaged in tuberculosis will agree how difficult it is to keep in touch with ambulant cases like the foregoing. "Late" cases, who are unable to work, can be prevailed upon to attend the tuberculosis dispensary regularly. Their illness is obvious and accordingly great care should be taken to prevent the infection spreading, where a positive sputum is noted.

The difficulty commonly experienced is that relatives cannot be persuaded to present themselves for examination at the dispensary. Many reasons are proffered. No necessity is seen for examination. The other members of the family have always been healthy and there is no family history of consumption. It is too much trouble or work prevents them. They have no desire to be observed at the dispensary for fear of the stigma which appears to be attached to those attending there. The misbelief in the infectiousness of tuberculosis is openly avowed, or again there is an

apprehension of being discovered suffering from the disease and having to be compulsorily isolated. These reasons, paltry as they may appear are very potent in hindering "contact" work and treatment, but they only seem to apply to adults and persons in their late teens. With regard to children up to the time of leaving school much opportunity is forthcoming to examine all the children of the family. Parents bringing one child to the clinic can easily be encouraged in the majority of cases to bring along the other presumably healthy members of the family. Secondly children are seen at school medical inspections, school inspection clinics, minor ailment clinics and infant welfare clinics.

The underlying idea of tuberculosis "contact" work, is of course, to become acquainted with the suspicious and "early" cases in particular. In the absence of a routine house to house inspection a knowledge of where cases of tuberculosis are to be found can only come, as a general rule, from certain well defined sources. Firstly, the notifications of the general medical practitioner, secondly, from the school medical inspection, and thirdly from the investigations of the health visitors. The latter are a very fruitful source of information, and this fact emphasises the great importance of a large staff of fully qualified health visitors. In addition to the above channels of information there is a further limited number of indirect sources.

Provided with a suitable knowledge the medical officer now sets to work to examine systematically the chests of the whole household, where there is positive a case or where there is a person whose condition has aroused suspicion. The only definite method which presents itself is to visit each house at a convenient part of the day, usually teatime, when the working portion of the family can be interviewed.

It is to advantage to prepare the people beforehand concerning the prospective visit and its purpose, and determine when all or most of the family can be seen. This saves much time and labour. By dividing a town into districts and tabulating the cases in street and house order much time is economised. Occasionally several visits are required to one house before all examinations are completed, consequently the work is slow, especially if single handed. It is wise to keep the attention concentrated on one neighbourhood at a time, as once the purpose of the visit becomes known it is easier to gain the confidence of the people; and since the method has been adopted, the medical officer has received numerous invitations to examine suspected cases.

By pursuing this method of systematic "contact" visiting one has been rewarded by the discovery of suspicious "early" and "late" cases. These are then passed on to the clinic for further investigation and treatment.

When once the people become accustomed to this procedure, in the writer's experience, no difficulty has yet been met with in carrying out a thorough examination.

The above scheme is working well in St. Helens and is productive of good results.

Below is appended, as an example of the method of recording the visits, a tabulated summary of cases in one district only, together with their ages, form of tuberculosis, numbers of contacts, and the results of "contact" examinations.

Of the 36 notified cases visited, 26 were pulmonary, 4 abdominal, 2 meningeal, 2 bone and 2 glandular. Of the 4 special visits 2 were pulmonary, 1 abdominal and one had no physical signs.

No. of notified cases visited.	No. of contacts examined.	No. of contacts with physical signs of tuberculosis	Number of invitations to examine special cases.	No. of special cases with physical signs.	No. of contacts of special cases.	No. of contacts with physical signs.
36	130	9	4	3	9	1

It is particularly striking how much time a patient suffering from tuberculosis will allow to elapse before consulting a medical practitioner. This is one of the contributing causes of the large number of advanced cases of tuberculosis. When the case comes to light, that is, when the disease has progressed to such an extent as to incapacitate the patient partially or wholly, little or nothing can be done to render the disease quiescent. Most patients even in advanced conditions of consumption appear to made light of the complaint, and even when they do visit their doctor will not describe their true symptoms. Cases are thus continually occurring where a patient attends a doctor for months before the true condition is realised. Again the seriousness of the disease does not seem to be appreciated by those most exposed to its ravages and life is not looked upon in its true value. The majority of contact infections result amongst the younger end of the family, the baby in many cases developing meningitis of a tubercular nature. The ignorance and carelessness which

abound is appalling. Perhaps it is the gradual development of the disease which takes its time to produce noticeable effects—its chronic nature—which is primarily responsible for so many patients delaying their visit to the physician. And again the mental calibre of the individual so suffering—his inability to realise changes in his personal condition is another factor. Cases are repeatedly occurring where persons will consult a doctor in the early stages of the disease where the diagnosis is indefinite and difficult. An examination of the sputum is made and found to be negative. The patient in his ignorance considers himself free from the disease, does not attend his doctor again, all touch with the case lost and the destruction of pulmonary tissue proceeds without any effort being able to be taken to arrest it in its early stages.

As a result of these conditions the only method of procedure which can be of use appears to be to determine the early cases, insist on their immediate and prolonged treatment, and secondly, to obtain the complete isolation of the advanced and infectious cases.

Realising the dangers arising from the presence in insanitary surroundings of the persons in an infectious stage of the disease the St. Helens Town Council obtained in a private Act powers whereby “ If the Medical Officer certifies in writing that any person is suffering from Pulmonary Tuberculosis and is in an infectious state, and that the lodging or accommodation with which such person is provided is such that proper precautions to prevent the spread of the infection cannot be taken, or that such precautions are not being taken, the Medical Officer may make application to a Court of Summary Jurisdiction, and such a court upon oral proof of the allegations in such certificate may, if they think fit, order the removal of such person to a suitable hospital.”

It has only been found necessary to obtain a magistrate's order on two occasions, but the powers conferred by the Act have greatly facilitated the removal of patients into sanatorium for treatment.

NOTIFIED CASES.

	Name.	Address.	Sex.	Age.	Form of Tuberculosis.	How Notified.	Number of Contacts.	Ages of contacts.		Remarks on Examination.
								Male.	Female.	
1	J. P.	11 E. St.	M.	8	Pulmonary	School Medical Officer.	5	12	14, 10, 4, 3/12	Girl 10. Phlyctenular conjunctivitis referred to Minor Ailment Clinic.
2	S. J.	38 E. St.	M.	32	Pulmonary	Medical Practitioner.	4	—	38, 3, 5, 1,	Baby attending Child Welfare Clinic. Others no signs.
3	R. W.	42 E. St.	M.	7	Abdominal	School Medical Officer	6	6, 12, 17.	4, 15, 39.	No physical signs.
4	L. P.	73 E. St.	F.	10	Bone	Medical Practitioner.	3	14	44, 5.	Girl has Tubercular Hip. Boy has advanced physical signs of tuberculosis. Referred to Clinic immediately.
5	W. L.	89 E. St.	M.	12	Pulmonary	School Medical Officer.	5	41	10, 12, 30, 13/12	Girl 10. Suspicious. Referred to Clinic for further investigation.
6	W. M.	92 E. St.	M.	21	Pulmonary	Medical Practitioner	7 25.	19, 23,	4, 9, 11, 15,	All healthy. Patient in Sanatorium.

NOTIFIED CASES—Continued.

	Name.	Address.	Sex.	Age.	Form of Tuberculosis.	How Notified.	Num-ber of Con-tacts.	Ages of contacts.		Remarks on Examination.
								Male.	Fe-male.	
7	J. H.	28 D. St.	F.	32	Pulmonary	Medical Practitioner	4	3	10, 8, 33.	Child suffering from tubercular meningitis removed to hospital.
8	J. H.	21 D. St.	M.	7	Bone	Medical Practitioner School Medical Officer	5	10, 21, 13.	42, 13.	Healthy.
9	B. H.		F.	8	Pulmonary					
10	E. A.	41 S. St.	F.	2	Abdominal	Medical Practitioner	3	—	30, 3, 5.	Mother shows physical signs of phthisis and tuberculous affection of larynx.
11	S. M.	77 S. St.	F.	13/12	Meningeal	Medical Practitioner	5	6, 4, 2.	40, 7.	Others healthy.
12	D. A.	310 B. Rd.	F.	11	Abdominal	Medical Practitioner School Medical Officer	4		38,	Mother's pulmonary condition, suspicious, referred to clinic. Father has signs of chronic bronchitis.
13	A. A.		M.	9	Pulmonary			40	10, 7.	
14	L. R.	121 B. Rd.	M.	7	Pulmonary	Medical Practitioner	3	7	35, 10,	Girl of ten suffering from tuberculosis, been observed to expectorate blood in back entry by neighbour. Taken into hospital.

NOTIFIED CASES—Continued.

	Name.	Address.	Sex.	Age.	Form of Tuberculosis.	How Notified.	Number of Contacts.	Ages of contacts.		Remarks on Examination.
								Male.	Female.	
15	D. R.	101 B. Rd.	F.	9	Glands	Medical Practitioner	4	—	14, 9, 5, 40.	All healthy.
16	H. R.	38 G. St.	M.	8	Pulmonary	Medical Practitioner	4	40	11, 3, 38.	All healthy.
17	H. J.	75 G. St.	M.	5	Meningeal	Medical Practitioner	3	38/12 24/12	39	Mother is advanced in phthisis. Taken into Sanatorium. Been going to own doctor.
18	J. D.	120 G. St.	F.	34	Pulmonary	Medical Practitioner.	4	44, 8.	5, 2.	All healthy. Patient quiescent.
19	F. M.	135 G. St.	F.	7	Pulmonary	Medical Practitioner	6	5, 9	38, 12, 9, 15/12	No physical signs.
20	R. F.	166 G. St.	M.	35	Pulmonary	Medical Practitioner	3	5	36, 8.	All healthy.
21	E. A.	108 G. St.	F.	7	Pulmonary	School Medical Officer	5	35, 4, 6.	30, 15/12	No physical signs.

NOTIFIED CASES—Continued.

	Name.	Address.	Sex.	Age.	Form of Tuberculosis.	How Notified.	Num- ber of Con- tacts.	Ages of contacts.		Remarks on Examination.
								Male.	Fe- male.	
22	I. B.	21 B. St.	M.	22	Pulmonary	Medical Prac- titioner	4	48	17, 12, 45.	All healthy.
23	M. W.	128 G. St.	F.	42	Pulmonary	Medical Prac- titioner	3	15	10, 8.	No physical signs.
24	S. T.	139 W. St.	F.	30	Pulmonary	Medical Prac- titioner	1	35	—	No physical signs.
25	G. McC.	169 W. St.	M.	45	Pulmonary	Medical Prac- titioner	5	21, 8, 17.	43, 7, 14.	Boy 17. Physical signs positive. Taken into hospital.
26	M. M.	8 R. St.	F.	26	Glands	Medical Prac- titioner	3	56	20, 13.	Healthy.
27	J. W.	50 W. St.	M.	30	Pulmonary	Medical Prac- titioner	3	53	57, 27.	Healthy.
28	I. C.	53 W. St.	F.	15	Pulmonary	Medical Prac- titioner	3	2.	12,	Healthy.
29	E. C.	Do.	F.		Pulmonary	Medical Prac- titioner			38.	

NOTIFIED CASES—Continued.

	Name.	Address.	Sex.	Age.	Form of Tuberculosis.	How Notified.	Num-ber of Con-tacts.	Ages of contacts.		Remarks on Examination.
								Male.	Fe-male.	
30	M. C.	57 W. St.	F.	8	Pulmonary	Medical Prac-titioner	7	6, 3, 10/12	26, 9, 3, 23.	Baby 10/12 appeared underweight. Referred to Baby Clinic.
31 32	H. B. F. B.	67 W. St.	M.	37	Pulmonary	Medical Prac-titioner	6	27	60, 9, 5, 13, 15.	All healthy.
33	A. J. H.	11 S. St.	F.	9	Abdominal	Medical Prac-titioner	3	—	36, 6, 4.	All sound.
34 35	J. Y. M. Y.	81 B. St.	M. F.	38 39	Pulmonary Pulmonary	Medical Prac-titioner Medical Prac-titioner	2	12	2	Both healthy.
36	P. W.	253 P. Rd.	M.	22	Pulmonary	Medical Prac-titioner	7	48, 4, 2, 13.	15, 9, 25.	One son died phthisis, 1915. Child 4, shows signs of tuberculosis. Referred to tuberculosis clinic for further investigation.

SPECIAL REQUESTS FOR EXAMINATION.

	Name.	Address.	Sex.	Age.	Form of Tuberculosis.	How Notified.	Num-ber of Con-tacts.	Ages of contacts.	Remarks on Examination.
1	C. W.	7 S. St.	F.	26	Pulmonary	Patient attending doctor but not notified to authorities.	5	Male. 30, 5. Fe-male. 68, 3, 10/12	Contacts healthy. House old, small, insanitary, dirty and dilapidated. Closing order should be made. Patient been utterly neglected and is obviously dying from advanced tuberculosis of lung and intestine. Patient removed to hospital immediately.
2	P. S.	145 G. St.	M.	45	Pulmonary	Patient attending doctor but not notified	1	40,	Patient obviously advanced in tuberculosis.
3	S. I.	130 G. St.	M.	4	—	—	2	30 24	No physical signs.
4	B. M.	7 St. St.	F.	19/12	Abdominal	Medical Practitioner	1	30	No physical signs.